TEXTILE TECHNOLOGY DIGEST

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ABSTRACTS

FIBERS A

COMPRESSIVE ELASTICITY OF A FIBER ASSEMBLY. K. Higuchi and S. Shimizu. J. Textile Machy. Soc. Japan 13, No. 12: 850-854 (1960). In Japanese (English summary). Through BCIRA 41: 503 (1961).
Compressive behavior has been studied by analysis of different elastic models. (1856)

FRICTIONAL BEHAVIOR OF FIBERS. F. Maag. Melliand Textilber. 42, No. 1: 8-12 (1961). In German. Through BCIRA 41: 866 (1961).
Various friction theories are reviewed, and experimental results are reported to show that there is a functional relationship between friction coefficient, surface pressure, and slipping rate of the fibers. The effect of the individual coefficients of this relationship on the spinnability of the fibers is pointed out, and the differences between dynamic and static friction coefficients are discussed. These differences determine the stick-slip behavior of fibers during drafting. (1857)

Natural fibers A1

ANNUAL COTTON QUALITY SURVEY: SUMMARY OF RESULTS OF FIBER AND PROCESSING TESTS FROM SELECTED MARKET AREAS, CROP OF 1960. U. S. Agri. Mktg. Serv., Washington 25, D. C. Mar. 1961. 90 p. Agri. information bull. no. 236. Free. (1858)

HERE'S WHAT YOU'LL GET FROM 1960 COTTON. F. L. Gerdes. Textile World 111: 66-68 (Apr. 1961).
USDA fiber and spinning tests made in key cotton-producing areas show that grades averaged the same all over, that early-season cotton had good properties, and that late-season cotton was a big disappointment. (1859)

REACTIVITY OF THE MORPHOLOGICAL COMPONENTS OF THE HEAT-DAMAGED WOOL FIBER. C. Daveloose, G. Mazingue, and M. Van Overbeke. Bull. Inst. Textile France No. 88: 61-75 (1960). Through J. Textile Inst. 51: A561 (1960).
Changes in the cortical asymmetry of wool on heating were investigated by observing swelling in ammoniacal caustic potash and in Allwörden reagent, solubility in cupriethylene diamine, and solubility in sodium sulfide, using wool undamaged by heat as the control. The orthocortex was also separated from the paracortex. Heat consolidated the orthocortex and increased its solubility, owing to the formation of new cross-linkages. Heat also caused the paracortex to be sensitive to acid and alkaline hydrolysis, owing to the breaking of the cystine linkages and the peptide chains. Cortical asymmetry is, therefore, much decreased, a phenomenon which can also take place as a result of photochemical degradation. (1860)

INVESTIGATION OF FLEECE ROT DISCOLORATION IN GREASY WOOL. J. R. Paynter (Univ. New South Wales). J. Textile Inst. 52: T64-T72 (Feb. 1961).
The incidence of fleece rot and its association with wool characters of commercial importance were studied within 5 flocks of Merino and Merino Corriedale cross-bred sheep. Greasy fleece weight and staple length together with quality number, wool color, character, and handle were examined for their possible association with fleece rot. Greasy wool color showed a highly significant correlation as a guide to susceptibility to fleece rot. 5 refs. (1861)

SORPTION OF ATMOSPHERIC WATER VAPOR BY WOOL AT 105° C. J. G. Downes and P. Nordon (CSIRO Wool Research Labs.). (Letter to the editor). J. Textile Inst. 52: T95-T96 (Feb. 1961).
The results of a series of determinations over the range of water vapor pressures likely to be encountered in practice are presented to indicate the effect of atmospheric humidity on moisture regain values. 8 refs. (1862)

SOME ASPECTS OF WOOL CONDITIONING IN AUSTRALIA. E. P. Gohl (Aust. Wool Testing Authority). Textile J. Australia 36: 122-126 (Jan. 20, 1961).
The significance and establishment of moisture regain standards and the importance of conditioning certification are discussed. (1863)

RAW MATERIAL PROBLEMS IN THE JUTE INDUSTRY. S. A. G. Caldwell. Textile Mfr. 87: 101-104 (Mar. 1961).
In the absence of adequate supplies of high grade jute, the author discusses the possibilities of upgrading available raw material to meet end-use requirements and the commercial development of suitable substitutes. (1864)

MECHANICAL PROPERTIES OF DEAD WOOL FIBERS. F. Szucht. Deut. Textiltech. 10: 300-302 (1960). In German. Through J. Textile Inst. 51: A474 (1960).
The morphology of these highly-medullated fibers was examined earlier (abstr. 1298/60). Their irregularity of cross-section and the high proportion of medulla to fiber wall have a considerable influence on the mechanical properties as is seen in the tables comparing the properties of medullated fibers of Cakiel, Mongolian, and Welsh wools with those of non-medullated fibers of the same wools. (1865)

PLASTICITY OF WOOL MADE VISIBLE. H. Reumuth. Melliand Textilber. 41: 665-667 (1960). In German. Through J. Textile Inst. 51: A424 (1960).
An old observation on the swelling of wool has been repeated to give, the author claims, a visual demonstration of plasticity in wool. (1866)

Manmade fibers A2

SPINNERETS FOR PROFILE FIBERS. Man-Made Textiles 38: 34-35 (Mar. 1961).
Operation of the Carl Zeiss electron beam milling machine, which can be programmed to machine complex spinneret shapes automatically and in any sequence, is described. (1867)

INVESTIGATIONS INTO THE TEMPERATURE DEPENDENCE OF THE HYGROSCOPIC EQUILIBRIUM IN SOME CHEMICAL FILAMENTS. K. Windeck. Melliand Textilber. 41, No. 11: 1407-1413 (1960). In German. Through BCIRA 41: 505 (1961).
The experiments described were carried out in an apparatus, by means of which it is possible to determine the dry swelling of fibers in a stationary atmosphere at any desired relative humidity and temperature. Water-uptake values are presented (in graphs and tables), at 25° and 60° C and relative humidities ranging from 35-85%, for rayon, Cupra, polyurethane, and Perlon. (1868)

ORLON'S FUTURE IN KNITWEAR. E. I. du Pont de Nemours & Co. Am. Textile Reptr. 75: 13-18 (Apr. 13, 1961).
Various spokesmen for the Du Pont Co. describe the growing family of Orlon fibers, their characteristics, and their potential use in knitwear as 100% components and in blends. (1869)

ORLON SAYELLE: TWO-IN-ONE ACRYLIC WITH REVERSIBLE CRIMP. Skinner's Silk & Rayon Record 35: 224-225 (Mar. 1961).
The development and characteristics of Orlon Sayelle are briefly outlined. (1870)

MECHANICAL PROPERTIES OF KANEKALON VINYL CHLORIDE-ACRYLONITRILE COPOLYMER FIBER. S. Yamaguchi and K. Oyanagi (Kogakuin Univ.). J. Textile Machy. Soc. Japan 6: 28-34 (Dec. 1960).
The mechanical properties of Kanekalon at 10 to 90° C and 30 to 90% rh are compared with those of viscose, vinyl chloride, cuprammonium, cotton, silk, acetate, nylon, and Terylene fibers. 5 refs. (1871)

PROGRESS REPORT ON NEW YARNS AND NEW TEXTURES IN BRITISH NYLON 1961. Man-Made Textiles 38: 47-62 (Feb. 1961). (1872)

MECHANICAL PROPERTIES OF POLYNONAMETHYLENE UREA FIBER. Y. Yamaguchi and K. Oyanagi. J. Textile Machy. Soc. Japan 13, No. 12: 855-861 (1960). In Japanese (English summary). Through BCIRA 41: 508 (1961).
Stress-strain, creep, and recovery properties were studied; generally, they are similar to those of nylon but the elasticity is high compared with other fibers. (1873)

NECESSITY, INVENTION, AND RAYON. PART 1. J. G. Evans (Bradford Dyers' Assoc. Ltd). Man-Made Textiles 38: 46-49 (Mar. 1961).
The author, after briefly outlining the progressive development of the cellulosic fibers industry, discusses the newest spheres of progress. He shows how the fiber producers have evolved a series of fibers which can now be given a range of finishes that transform fabric properties, with emphasis on wet and dry crease resistance. (1874)

THEORY OF FILAMENT FORMATION IN HIGH TENACITY FIBERS SPUN BY THE VISCOSE PROCESS. K. Götze and V. Strach. Melliand Textilber. 41, No. 11: 1326-1327 (1960). In German. Through BCIRA 41: 341 (1961).
Experiments are reported, which were carried out to elucidate the thread-formation mechanism in supercord yarn. The results indicate that, in contrast to previous theories, the total fiber cross-section is not converted into the zinc xanthate during filament formation. The fibrous structure in supercord is affected by so-called modifiers which interfere in the building up of large crystallites leading to the presence of many small crystallites or crystallite bundles. (1875)

SOME SPECIAL PROBLEMS OF THE FORMATION MECHANISM OF HIGH TENACITY REGENERATED CELLULOSE FIBERS. H. Klare and A. Gröbe. Papier Darmstadt 14, No. 10a: 526-531 (1960). In German. Through BCIRA 41: 342 (1961).
Experiments showed that the filaments spun from modified viscose have a membrane of a special structure, which can be isolated by a special treatment of the thread formed. The sodium cellulose xanthate under this membrane remains practically unconverted into zinc cellulose xanthate (contrary to the generally advanced theory). Therefore, the present theories on the formation mechanism of supercord filaments from modified viscoses have to be correspondingly revised. (1876)

YARN PRODUCTION B

OPTIMUM PACKAGE SIZE. W. Slater (T. M. M. (Research) Ltd). Textile Weekly 61 (1): 535-536, 546 (Mar. 10, 1961); 598-600 (Mar. 17, 1961); 668-670 (Mar. 24, 1961).
Practical and economic limits of package size are discussed in connection with drawframes, roving frames, and ring spinning frames. For part 1, see abstr. 1388/61. (1877)

PROGRESS IN TEXTILE OILS. G. V. Carrette (B. R. Vickers & Sons). Dyer 125: 364 (Mar. 10, 1961). (1878)

TEXTILE OILS. R. H. H. Morley (Munmor Oils & Chem. Ltd). Textile Mfr. 87: 118-120 (Mar. 1961).
The requirements and types of carding, combing, and spinning oils available in the worsted and woolen industries are described. (1879)

CRIMPING OF SLIVERS BY STUFFER BOX. K. Sasaki, Y. Ishikawa, and M. Fujii. J. Textile Machy. Soc. Japan 14, No. 1: 61-66 (1961). In Japanese (English summary). Through BCIRA 41: 771 (1961).
A linear relationship has been found to exist between the number of crimps and the apparent density of the sliver near the nip point of the calender roller. (1880)

PROBLEMS IN PROCESSING WOOL AND MANMADE FIBERS ON THE WORSTED SYSTEM. P. P. Townend (Leeds Univ.). Textile Mfr. 87: 115-117 (Mar. 1961).
The author discusses the problems facing the manufacturer as a result of the diversity of drawing systems (e.g. old Bradford, cone, new Bradford, old Continental porcupine, modified Continental using rubber gill boxes, new Continental, American), and a similar diversity in spinning (e.g. drafting with carriers and tumblers, with compressible tumblers, with aprons, and with fumes). (1881)

MACHINE STANDARDS. A. Valota. (Letter to the editor). J. Textile Inst. 52: P86-P89 (Feb. 1961).
It is proposed that cotton spinning machine standards should be established and that these should be related to Uster regularity standards. These standards could be set up to form a classification of machines based on the irregularity which is really attributable to them, and could be set out in the same three categories as the regularity standards, i.e. regular, average, and irregular. 3 refs. (1882)

OM-NF CONVERTER. O-M Ltd. J. Textile Machy. Soc. Japan 6: 63-64 (Dec. 1960). (1883)

SCIENTIFIC APPROACH TO TOPMAKING. PART 1. P. P. Townend. Textile Recorder 78: 63-64 (Mar. 1961).
Differences between the outlook of the scientist and of the man in the industry and the considerations underlying these differences are discussed, and suggestions made for bringing the two closer together. (1884)

CONTRIBUTIONS FROM SCIENCE TO MODERN TOPMAKING TECHNIQUE. P. P. Townend. Textile Recorder 78: 48-49 (Apr. 1961).
Specific contributions made by the scientist to both topmaking technique and control of material and process are outlined. References are provided to indicate where more detailed information can be obtained. (1885)

AGING OF TOPS OF WOOL AND OF VISCOSE STAPLE FIBER. G. Nitschke. Textil-Praxis 15: 113-118 (1960). In German. Through J. Textile Inst. 51: A344 (1960).
Changes in the properties of wool and of viscose staple fiber during their processing into top, and during storage as top, have been investigated. The results are discussed and are shown in tables and graphs. An aging time of about 50 days is suggested, and this confirms the finding of practical experience. (1886)

Opening, picking, fiber preparation B1

FEED CONTROL AT THE FIRST BREAKER. K. König. Textil-Praxis 14: 1114-1115 (1959). In German. Through J. Textile Inst. 51: A19 (1960).
To simplify the regular feeding of the first breaker in sisal spinning, an auxiliary pointer is fitted to the scale of a weigh-bridge and driven, through a slipping clutch, at a rate corresponding to the required feed rate by means of a coupling from the breaker feed rollers. A truckload of raw material is placed on the weigh-bridge, the auxiliary pointer is set in alignment with the normal pointer, and as the drive moves the auxiliary pointer back to zero, the operative must unload the truck onto the feed-sheet of the breaker at a rate to keep the two pointers always in alignment. (1887)

ADD CLEANING TO YOUR SRRL OPENER. M. Mayer, Jr. and J. I. Kotter (So. Reg. Research Lab.). Textile Inds. 125: 69-72 (Apr. 1961).
The installation of an aerodynamic cleaner developed for use with the SRRL cotton opener results in approximately 20% increase in opening line cleaning efficiency without adversely affecting the fibers or yarns. Pilot-scale evaluations indicate the combined opener-aerodynamic cleaner would permit the elimination of one cleaning machine from the processing line without sacrificing overall cleaning efficiency. 7 refs. (1888)

METHODS OF MEASURING THE DEGREE OF FIBER OPENING. M. Kato, K. Sakaoku, and K. Yoshida (Fukui Univ.). J. Textile Machy. Soc. Japan 6: 35-44 (Dec. 1960).
Three methods of measuring the degree of opening of cotton fibers are described: (1) by degree of compression and compression recovery; (2) by degree of deformation by compression; (3) by specific volume. 5 refs. (1889)

Carding and combing B2

TESTS WITH THE AUTOLEVELER IN COMBING. G. Nitschke. Spinner u. Weber 78: 173-177 (1960). Through J. Textile Inst. 51: A396 (1960).
A series of tests has been made using the Prince-Smith & Stells Speed-o-Gill Autoleveler on various types of wool and on rayon staple fiber. The results are discussed with reference to the effect on the levelness and cleanliness of the sliver of the number of faller drops and of the setting of the front roller. The position of the Autoleveler in a combing set is also considered. (1890)

STATISTICAL DETERMINATION OF OPTIMUM QUALITATIVE WORKING CONDITIONS ON THE CARD. S. Firrao. Riv. Industr. Cotoniera 14, No. 3: 198-209; No. 4: 270-278 (1960). In Italian. Through BCIRA 40: 4204 (1960). (1891)

TEXTILE MACHINERY: CARD FILLETS. German Standards Comm. Textil-Praxis 15, No. 12: 1235-1237 (1960). In German. Through BCIRA 41: 768 (1961).
The draft specification DIN 64 108 refers to the terms, methods of setting, and setting widths of card-fillet wires. (1892)

USE OF METALLIC CARD CLOTHING FOR COTTON PROCESSING. PART 6. EFFECTS OF VARIATIONS IN SPEED OF REVOLVING PARTS OF A CARD. C. Nozaki, Y. Mineo, K. Ando, and H. Kimura. J. Textile Machy. Soc. Japan 14, No. 1: 46-53 (1961). In Japanese (English summary). Through BCIRA 41: 769 (1961).
The speeds were varied from 56 to 305 rpm. The yield of sliver decreased but more trash was removed, neps increased negligibly, and there was no effect on fiber breakage. (1893)

TANDEM CREEL CONDENSER FOR WOOLEN CARDS. Chadwick Mach. Co. Ltd. Textile Recorder 78: 72, 79 (Apr. 1961).
The new tandem creel incorporates two lines of surface drums arranged at the same level, one behind the other, at each height. For a given number of heights, this arrangement enables bobbins with wide pitch cheeses to be produced on a condenser no more than normal card width. (1894)

FACTORIAL TESTS ON THE CARD (FIRST AND SECOND WORKERS). F. Monfort and J. Brach. Ann. Sci. Textiles Belges No. 2: 7-56 (1960). Through J. Textile Inst. 51: A493 (1960).
A factorial test was made to investigate the effect of various factors on the instantaneous loading and on the collecting power of the first and second workers on a Continental worsted card. The factors studied were the feed of the card, and the speeds and settings of the first and second workers of the first swift. The results obtained, details of which are shown in a series of tables, were of sufficient interest to justify using the test for investigating the quantitative effects of the settings of the 8 workers of the classic card. (1895)

EXTRA LARGE CONDENSER BOBBINS ON WOOLEN CARDS. H. Weissbach and B. Weissbach. Deut. Textiltech. 10: 390-392 (1960). In German. Through J. Textile Inst. 51: A580 (1960).
The size of condenser bobbins was increased by making the thread guide rods stationary and by causing the condenser drum to oscillate. After conversion of the condenser in this way, 9 bobbins were produced, 3 side by side in 3 heights, each bobbin containing 8 cheeses, the width being 107 mm. Use of the cheeses on various types of spinning machine is described, greatly increased productivity being claimed. (1896)

CARDING IN WOOL HAT PRODUCTION AND LAP FORMATION. H. Morgenstern. Melliand Textilber. 41: 517-519 (1960). In German. Through J. Textile Inst. 51: A344 (1960).
Description of the carding machines and hood former, together with brief details of their operation in the manufacture of wool felt hats. (1897)

Drawing and roving B3

DRAFTING FORCE MEASUREMENT ON DRAWFRAME SLIVERS FROM COTTON. W. Wegener. Textil-Praxis 15, No. 12: 1223-1228 (1960). In German. Through BCIRA 41: 774 (1961).
The drafting force and its respective variation coefficients were examined in relation to the main draft of cotton sliver at various preliminary drafts, roller weightings, and drafting-zone lengths. (1898)

EFFECTS OF ORIENTATION ON FIBER MOTION IN THE DRAFTING ZONE. K. Fujino and W. Itani (Kyoto Univ.). J. Textile Machy. Soc. Japan 6: 1-12 (Dec. 1960).
This is a report on a theoretical and empirical analysis of the effects of fiber orientation in slivers on fiber motion in the drafting zone. It assumes that each fiber in an ideal sliver has equal fiber orientation and a velocity change point in the drafting zone. Some functions of an ideal sliver are formulated to express the relations among the average floating velocity, the average position of velocity change points, the degree of fiber orientation, and the quantity of floating fibers; and the relations among the sectional average floating velocities, the distribution of velocity change points, the degree of fiber orientation, and the distribution of floating fibers. 4 refs. (1899)

EXPERIMENTS ON SELF-LUBRICATING TOP DRAFTING ROLLS. K. Kawasaki, N. Fukunaga, and R. Kurumizawa (Tokyo Univ. and Nihon Oiles Kogyo Co.). J. Textile Machy. Soc. Japan 6: 55-58 (Dec. 1960).
On the basis of the experiments reported it is concluded that self-lubricating rolls made of synthetic resin in conjunction with ball bearings can be used for long periods without lubrication. (1900)

HIGH-SPEED DRAWING FRAME WITH EVER EVEN DRAFT CONTROL. Daiwa Spinning Co. Ltd. J. Textile Machy. Soc. Japan 6: 64-65 (Dec. 1960). (1901)

SLIVER REGULATING DEVICES. PART 1. H. Needham and W. Parkin. Wool Rev. 34: 15-16 (Mar. 1961).
The features and operation of the Raper autoleveler, SACM hydroregulator, Warner & Swasey Servo-draft mechanism, Schlumberger regulator, and La Duranitre regulator are described. (1902)

FM DRAWING FRAME FOR COTTON. Howa Machy. Ltd. J. Textile Machy. Soc. Japan 6: 65-66 (Dec. 1960). (1903)

MANN BF HIGH-SPEED FINISHING DRAWFRAME. K. Echner. Spinner u. Weber 78, No. 11: 751-752 (1960). In German. Through BCIRA 41: 773 (1961).
Constructional features and technical details are enumerated. (1904)

HIGH SPEED GILL FINISHER FOR CONTINENTAL SETS. Chr. Mann Maschinenfabrik. Textile Recorder 78: 82 (Mar. 1961).
The BF fine gill box is of the faller drawing type, and is said to be capable of faller speeds up to 1,800 drops per min in continuous running. Features include a vertical arrangement of the rubbing aprons and a traverse arrangement which avoids the necessity for moving the bobbins laterally. (1905)

WHAT TO DO ABOUT HIDDEN ROVING VARIATION. N. L. Enrick (Univ. Va.). Textile World 111: 86-87 (Apr. 1961).
A simple test for locating trouble from stretched roving at the beginning of the bobbin which does not show up on quality-control records. (1906)

CAUSE OF IRREGULARITY IN ROLLER DRAFTING. P. Grosberg (Univ. Leeds). (Letter to the editor). J. Textile Inst. 52: T91-T95 (Feb. 1961).
Experimental evidence is presented to show that the cause of irregularity in roller drafting is the dragging of the undrafted sliver into the nip of the front roller, due to an increase in drafting force, and its subsequent retreat under the action of the internal elastic forces when the force decreases. 4 refs. (1907)

Spinning, winding, twisting B4

EFFECT OF DRAFTING ROLL WEIGHTING PRESSURE IN RING SPINNING MACHINES ON THE YARN REGULARITY. E. Simon. Melliand Textilber. 42, No. 1: 27-29 (1961). In German. Through BCIRA 41: 777 (1961).
The experiments described show that, even at greatly increasing weighting pressures on a double-apron drafting system, no increasing improvement of the yarn values was obtained. In practice, the use of low weighting pressures gives good yarn values for most fiber types and is more economical because of the reduced wear of aprons, roller cots, bearings, and gears. A drafting system with easily adjustable weighting pressures offers greatest advantages. (1908)

ROBERTS FC DRAFTING SYSTEM FOR SPINNING. Roberts Co. Knitted Outerwear Times 30: 36-37 (Apr. 10, 1961).
The double apron, high draft FC system incorporates PosiWate pendular arm suspension and has a cartridge weighting arrangement that eliminates all weighting attachments to the roll beam. Other features are noted. (1909)

INVESTIGATIONS INTO THE PERFORMANCE OF RING TRAVELERS ON SPINNING RINGS OF COTTON RING SPINNING MACHINES. O. König and H. Herdtle. Textil-Praxis 15, No. 12: 1228-1231 (1960). In German. Through BCIRA 41: 778 (1961).
In continuation of previous articles the authors discuss the formation, discharge, and effects of the frictional heat of travelers. (1910)

DOUBLE-APRON WORSTED DRAFTING DEVICE WITH SKF PENDULUM-TYPE SUPPORTS. Melliand Textilber. 41: 135-136 (1960). In German. Through J. Textile Inst. 51: A398 (1960).
A double-apron drafting device PK 500 has been developed for worsted ring spinning frames. The middle top roller has a wide circumferential groove and the top apron is supported only by the flanges of the roller; a soft pressure is thus exerted on the sliver. It is claimed that fiber control is effective for blends of very different fiber lengths, and that drafts up to 30 can be achieved. (1911)

PRINCIPLES FOR EVALUATING TOP ROLLER COTS FROM SYNTHETIC RUBBER FOR COTTON SPINNING MACHINERY. K.-H. Banke. Deut. Textiltech. 10, No. 12: 634-636 (1960). In German. Through BCIRA 41: 776 (1961).
Methods for testing the chemical and physical properties of top roller cots from synthetic rubber are briefly reviewed with a view to develop a standard method for evaluating the suitability of these cots for cotton spinning machinery. (1912)

OPTIMUM CONDITIONS IN RING SPINNING. PART 1. W. Nutter. Textile Recorder 78: 60-62 (Mar. 1961).
The relationship between optimum conditions (high quality yarn with minimum end breaks) at the ring frame and the following factors are discussed: distribution of draft between speed and ring frames; draft distribution in the ring frame system; and factors limiting ring frame spindle speed, e.g. rings and travelers and balloon control. (1913)

OPTIMUM CONDITIONS IN RING SPINNING. PART 2. W. Nutter. Textile Recorder 78: 46-47, 49 (Apr. 1961).
Problems associated with high speed spinning (e.g. fly generation, lashing, excessive power requirements, yarn weakening) and possible solutions are discussed. (1914)

WINDING TENSION. H. Catling (Brit. Cotton Research Assoc.). Textile Mfr. 87: 96-100 (Mar. 1961).
The choice of winding tension as related to the economics of ring spinning, end-breakage rate, package density, and yarn properties is examined in detail. (1915)

HOUGET APPARATUS FOR REDUCED TENSION IN RING SPINNING. J. Kinapenne. Melliand Textilber. 40: 1246-1249 (1959). In German. Summary in J. Textile Inst. 51: A20 (1960). (1916)

PROGRESS REPORT ON AUTOMATIC DOFFERS. Textile Bull. 87: 60-63 (Apr. 1961).
In this report on the progress being made in getting automatic doffers for spinning frames on the market, the features of the Treufus (Draper Corp.) and Milliken (Deering Milliken Research Corp.) doffers are reviewed. (1917)

MILLIKEN DOFFER AT WORK. Textile Inds. 125: 78-80, 196 (Apr. 1961).
Mill performance data and detailed description of doffer system operation are included. (1918)

WOOLEN MULE MODEL XX. VEB Spinnereimaschinenbau Karl-Marx-Stadt. Deut. Textiltech. 10: 160 (1960). In German. Summary in J. Textile Inst. 51: A294 (1960). (1919)

RE-II TYPE RING SPINNING FRAME. Toyoda Automatic Loom Works Ltd. J. Textile Machy. Soc. Japan 6: 68 (Dec. 1960).
The outstanding feature of the RE-II frame is its narrow width (50 mm) due to the use of a gear-driven spindle system placed on only one side of the frame. (1920)

NAZIONALE COGNE UNIVERSAL RING-SPINNING MACHINE. R. Thiebaut. Industrie Textile: 888-890 (Dec. 1960). In French. Through BCIRA 41: 775 (1961).
Constructional details and mechanism of the machine are described. (1921)

SPINDLE PITCH ON WOOLEN RING FRAMES. K.-H. Hagen. Textil-Praxis 15: 787-789 (1960). In German. Through J. Textile Inst. 51: A582 (1960).
The present tendency to increase the pitch of ring frames is discussed. Calculations of the productivity of ring frames based on a machine length of 16 m and assuming a separate drive to each side of the frame (of 8-m-long machines with a common drive to both sides) suggest the following spindle pitch for various ranges of counts: 1-5 metric (1,000-200 tex): 12.5-cm pitch; 5-15 metric (200-67 tex): 10-cm pitch; finer than 15 metric (67 tex): 80-cm pitch. (1922)

WOOL: SPINNING LIMIT. L. Cormann. Ann. Sci. Textiles Belges No. 2: 107-131 (1960). Through J. Textile Inst. 51: A494 (1960).
As a result of drafting tests made under mill conditions, a model of a regression equation for spinning limit is presented. The equation, which is also given in the form of a graph, shows the number of end breaks per 100 spindle hours as a function of traveler speed, draft, number of fibers in the cross-section, and fiber length and diameter. Further work on the validity of the equation is planned. (1923)

PADS (PRESSURE APRON DRAFT SYSTEM) RING SPINNING FRAME. Fukushima Ltd. J. Textile Machy. Soc. Japan 6: 66-67 (Dec. 1960). (1924)

FRICTION BETWEEN SELF-LUBRICATING RINGS AND TRAVELERS: EFFECT ON WEAR AND TRAVELER HARDNESS. T. Hattori (Fuji Seiko Co.). J. Textile Machy. Soc. Japan 6: 51-54 (Dec. 1960).
6 refs. (1925)

TELLING LEFT FROM RIGHT TWIST AT A GLANCE. R. Millmore. Wool Record 99: 876-877 (Mar. 24, 1961).
The Heb-belite process consists of treating yarn of one twist direction only with a solution which acts both as a conditioner and as a fluorescent indicator under ultra-violet light. (1926)

OPTIMUM ROVING TWISTS FOR SPINNING 3 DENIER 3-5 INCHES HIGH CRIMP NYLON STAPLE ON CONVENTIONAL ROLLER DRAFTING WORSTED SPINNING FRAMES. Brit. Nylon Spinners Ltd, Textile Development Dept. Advance Report No. 35, Mar. 1961. 2 p. (1927)

Yarns B5

BRITISH BULKED YARN TRADE INDEX--1961. Skinner's Silk & Rayon Record 35: 247-256 (Mar. 1961). (1928)

PRINCIPLES OF BULKED YARN MANUFACTURE. PART 2. G. R. Wray. Textile Recorder 78: 65-67 (Mar. 1961).
The production of bulked yarns by the edge crimping and torsional methods is described. (1929)

PRINCIPLES OF BULKED YARN MANUFACTURE. PART 3. G. R. Wray. Textile Recorder 78: 50-51 (Apr. 1961).
The theory and practice of manufacturing torsionally crimped yarns by the false twist method are described. 4 refs. (1930)

TEXTURED YARNS. Z. Travnicek. Industrie Textile: 869-882 (Dec. 1960). In French. Through BCIRA 41: 781 (1961).
Details are set out of matters discussed at a recent conference in Prague on the topic of textured yarns. Crimping methods, including crimping with false twist, over a knife edge, and by the heated-box apparatus, are described and illustrations are given. Machinery for producing textured yarns by compressed air is also described. (1931)

THERMOSETTING PROCESS FOR COILED YARNS. K. Sakaoku and S. Asao (Tokyo Univ.). J. Textile Machy. Soc. Japan 6: 45-50 (Dec. 1960).
See abstr. 1566/60. (1932)

DRYLENE POLYTHENE YARNS FOR ROPE. Slack Sales Co. Ltd. Man-Made Textiles 38: 57 (Mar. 1961).
Results of a series of tests comparing the properties of Drylene polythene braid with comparable nylon and polyester braids are tabulated. (1933)

SPUN COLORED NYLON YARNS. G. K. Mecklenburgh. Nylon Outlook No. 10: 2-7 (Spring 1961).
The requirements of spun colored yarns are outlined, and the problems associated with coloring substances and techniques of coloring are discussed. (1934)

PAPER KNITS. R. H. Marks (Enterprise, Inc.). Man-Made Textiles 38: 41, 43 (Mar. 1961).
By means of the Marks process (USP 2 955 408) rolls of paper can be converted in one operation into yarns narrow enough to be knitted into fabrics having heat resistance and able to withstand repeated laundering. (1935)

STUDIES OF CREPE YARNS. PART 5. EXPERIMENT ON KINK. I. Gemma and Y. Fukushima. J. Textile Machy. Soc. Japan 14, No. 1: 54-60 (1961). In Japanese (English summary). Through BCIRA 41: 782 (1961).
The critical condition for development of a kink has been studied: Mk = 2 RW, where Mk is the initial twist moment when the kink occurs, R is the yarn diameter, and W the tension. (1936)

BREAKAGE OF TWISTED YARNS. J. W. S. Hearle and V. M. Thakur. J. Textile Inst. 52: T49-T63 (Feb. 1961).
The modes of breakage of twisted continuous-filament yarns are examined; and it is found that, for short specimens and slow rates of loading, the break occurs in two distinct stages. Yarns in which only the first stage of break has taken place are examined, and the mechanism of breakage is discussed. The effects of buckling, filament deformation, and migration on breaking extension are examined. 9 refs. (1937)

INVESTIGATION OF MECHANICAL STRENGTH OF BLENDED YARNS OR CORDS. H. Noshi, T. Ishida, and M. Shimada (Kyoto Univ.). J. Textile Machy. Soc. Japan 6: 13-21 (Dec. 1960).
The object of this study was to discover the most effective law of blending and the maximum limitation on the mechanical strength of a blended yarn or cord composed of two kinds of continuous filaments. The tensile strength or fatigue life of even the most effective blended yarn or cord is less than that of the mathematical mean of the constituent fibers. The amount of work (the degree of toughness) needed for the tensile rupture of the yarn or cord exceeds the mathematical mean of the constituent fibers. 7 refs. (1938)

TIRE CORD PRODUCTION. W. Frenzel and H.-J. Pursch. Faserforsch. u. Textiltech. 11, No. 11: 528-543 (1960). In German. Through BCIRA 41: 635 (1961).
Conventional and new methods for the production of tire cord fabrics are reviewed, with reference to processing in the spinning, doubling, weaving, and finishing plant. Raw materials used for tire cords (cotton, viscose rayon, nylon and Perlon, spun rayon, and acetate rayon, glass fiber, steel wire) are also discussed. 37 refs. (1939)

INFLUENCE OF FINISHING OIL UPON INTERNAL FRICTION OF RAYON TIRE CORDS. K. Fujino, H. Ohnaru, T. Horino, and H. Kawai (Kyoto Univ.). J. Textile Machy. Soc. Japan 6: 22-27 (Dec. 1960).
Spun yarns, as well as twisted filament yarns, show considerable non-linear vibration characteristics, which seem traceable to intersurface friction between fibers constituting the yarns. In this paper the non-linear vibration characteristics are represented in terms of a degenerated visco-plasto-elasticity, taking into account a continuous distribution of Coulomb's friction. The influence of finishing oils upon the continuous distribution of Coulomb's friction and the reduced complex dynamic compliance are also discussed. 7 refs. (1940)

FABRIC PRODUCTION C

Warping, slashing, yarn preparation C1

PREPARATION OF YARNS FROM CONTINUOUS FILAMENTS FOR WEAVING. J. G. Vos. Chemiefasern 10, No. 12: 815-818 (1960). In German. Rayonne et Fibres Synthet. No. 11: 1209-1221 (1960). In French. Through BCIRA 41: 794 (1961).
Preparatory processes in the production of fabrics from continuous-filament yarns (manmade) are discussed; the data given may be also applicable to the weaving of staple yarns and to the production of knitted goods. (1941)

PROGRESS IN THE FIELD OF SIZING. K. Ramaszeder. Textil-Praxis 15, No. 12: 1250-1254 (1960). In German. Through BCIRA 41: 798 (1961).
Literature review concerned particularly with warp beam frames, sizing troughs, drying installations (drum dryers, air dryers, infrared dryers), beaming devices, sizing agents, and preparation of sizing liquors, and testing of the sizing effect. (1942)

SLASHER SIZES FOR BLENDS OF DACRON AND COTTON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Mar. 1961. 3 p. Bull. D-134 (replaces Bull. D-110). Free. (1943)

WARP TENSION AND STRETCH DURING SIZING. N. Akawaga, S. Kazama, K. Shinkai, and N. Nagasaka. Bull. Textile Research Inst. (Japan) No. 55: 15-33 (1960). In Japanese (English summary). Through BCIRA 41: 629 (1961).
Cellulose yarns were examined. Two zones on the sizing machine are considered: the dry-wet zone from the warp beams to squeeze rollers, and the drying zone from squeeze roller to takeup roller. Running tension and stretch of the dry-wet yarn are affected by the time of passage through the wet zone and the change of yarn length due to wetting. For continuous-filament viscose the running tension of the dry-wet yarn is much lower than that of the wet yarn. During drying, viscose yarns shrink and cotton yarns stretch; cellulose acetate yarns stretch under high tension and shrink under low tension. Roller speed in the drying zone should be controlled in relation to the drying behavior of the yarn. (1944)

VERDICKER AN AS A WATER SOLUBLE SIZE IN WORSTED WEAVING. Deut. Textiltech. 10: 267-268 (1960). In German. Through J. Textile Inst. 51: A350 (1960).
Because of the difficulties attending the removal of starch sizes, a thickening agent, Verdicker AN, based on polyacrylonitrile, has been evaluated by laboratory tests and weaving trials. It is suggested that at optimum concentration the product may prove to be an effective sizing agent; the saving resulting from the easy removal of the product more than compensates for its greater cost. (1945)

SIZING MACHINES FOR COTTON AND VISCOSE RAYON STAPLE FIBER WARPS. W. Franke. Melliand Textilber. 41, No. 12: 1494-1495 (1960). In German. Through BCIRA 41: 628 (1961).
A 5-cylinder installation and a modern frictionless beaming machine of Gebr. Sucker GmbH are described. The technique of contact drying of the sized warps on steam-heated cylinders permits sizing rates of 120 m/min. (1946)

YARN BRAKE. PART 1. DESCRIPTION, CALCULATION, AND EVALUATION OF YARN BRAKES. PART 2. TECHNICAL PROBLEMS OF YARN-BRAKE ADJUSTMENT. E. Beschnitt. Deut. Textiltech. 10, No. 5: 231-232; No. 10: 639-644 (1960). In German. Through BCIRA 41: 793 (1961). (1947)

AUTOMATIC PIRN WINDING MACHINE, TYPE 2053. F. Mnuk. Textil 15, No. 11: 412-413 (1960). In Czech. Through BCIRA 41: 792 (1961).
The space-saving machine described is suitable for medium-count and fine cotton, wool, and silk yarns. (1948)

KAMIMATIC AUTO-QUILLER. Kamitsu Seisakusho Ltd. J. Textile Machy. Soc. Japan 6: 68-69 (Dec. 1960).
Features and specifications of this high speed, automatic pirn winder are noted. (1949)

MONEY-SAVING MACHINE FOR THE WORSTED SPINNING MILL. Etab. Ryo-Catteau SA. Melliand Textilber. 41: 143-144 (1960). In German. Through J. Textile Inst. 51: A398 (1960).
The Moulineuse machine produces two-fold yarns in hank form from cheeses containing two separate singles yarns. The cheeses are mounted on vertical spindles which are rotated at speeds up to 10,000 rpm; the pair of yarns is taken overend off each cheese and passed upwards through a single pigtail guide and onto one swift of a conventional two-swift hank-winder. (1950)

QUALITY CONTROL IN WARP PREPARATION. W. B. Croxton (Glen Raven Cotton Mills). Textile Bull. 87: 35-40 (Apr. 1961).
In considering the basic essentials for good quality control in warp preparation, the key points in winding, warping, and slashing are covered. (1951)

PREPARING PACKAGES OF BULKED NYLON YARN FOR KNITTING. L. H. Williams. Nylon Outlook No. 10: 22-27 (Spring 1961).
Successful coning of bulked yarns calls for a higher ratio of back pressure to tension, and a more rapid reduction of both tension and back pressure during buildup of the package than one would expect from experience of other yarns. The more elastic the yarn the more strongly these conditions apply. As with the coning of other yarns, the level of oil on yarn should be kept as constant as possible, cone hardness and size being best adjusted to suit the requirements of the individual knitter. (1952)

SHORT REST PERIODS IN THE TEXTILE PLANT. K. T. Schmid. Spinner u. Weber 79, No. 1: 26-31 (1961). In German. Through BCIRA 41: 797 (1961).
It has been found that the introduction of short rest periods in the winding room ensures constant and even increased efficiency under more pleasant working conditions. Shortening of the working time by 7.3% did not result in loss of production. (1953)

Weaving C2

HEDDLE MOUNTING. German Standards Comm. Melliand Textilber. 41, No. 12: 1518-1519 (1960). In German. Through BCIRA 41: 631 (1961).
The draft specification DIN 61 110 gives heddling terms, classification and nomenclature, together with examples and explanation of the procedures. (1954)

COMPARING THE DURABILITY OF LOOM ACCESSORIES. M. Pesenecker. Melliand 42, No. 1: 16, 18 (1961).
The derivation of a factor based on shuttle speed and weight for use in indicating the strain imposed on loom accessories and for comparing their durability is explained. (1955)

DOUBLE-CARPET LOOM FOR TWO- OR THREE-PICK TECHNIQUE OPERATING WITH TWO SHUTTLES. H. Schieblich. Deut. Textiltech. 10, No. 12: 644-649 (1960). In German. Through BCIRA 41: 802 (1961). (1956)

DEVELOPMENT OF LOOMS OF CZECHOSLOVAKIAN PRODUCTION. O. Talavasek. Textil 15, No. 12: 445-448 (1960). In Czech. Through BCIRA 41: 801 (1961). (1957)

PRODUCTION OF LOOP PATTERN EFFECTS. R. König. Melliand 42, No. 1: 16 (1961).
The device described is mounted between the harness and warp beam in such a way that controlled relaxation of the warp tension can take place. (1958)

BOX-CHAIN MAKING FOR DOBCROSS LOOMS. PART 3. N. C. Gee. Textile Mfr. 87: 92-94 (Mar. 1961).
The versatility of some typical single move 3- and 4-shuttle box-chain plans when combined with various wefting plans is described and illustrated. (1959)

LOOMFIXER AND HIS JOB. PART 28. W. Westbrook. Textile Bull. 87: 64, 66 (Apr. 1961).
Modifications and adaptations of gages to set loom parts are described. (1960)

GB HIGH-SPEED AUTOMATIC LOOM. Toyoda Automatic Loom Works Ltd. J. Textile Machy. Soc. Japan 6: 74 (Dec. 1960). (1961)

KS-A AUTOMATIC COP-CHANGING LOOM. Enshu Ltd. J. Textile Machy. Soc. Japan 6: 70 (Dec. 1960). (1962)

LMD 4 X 1 SHUTTLE BOX LOOM. Tsudakoma Industrial Co. Ltd. J. Textile Machy. Soc. Japan 6: 73-74 (Dec. 1960). (1963)

NL TYPE 8 X 8 SHUTTLE BOX LOOM. Hokuriku Kikai Kogyo Co. Ltd. J. Textile Machy. Soc. Japan 6: 70-72 (Dec. 1960). (1964)

SW LOOM. Matsuyama Loom Works Co. Ltd. J. Textile Machy. Soc. Japan 6: 72-73 (Dec. 1960). (1965)

TYPE E AUTOMATIC 1 X 4 SHUTTLE BOX LOOM. Okuma Machy. Works Ltd. J. Textile Machy. Soc. Japan 6: 72 (Dec. 1960). (1966)

ELECTRICAL CONTROLS ON NARROW LOOMS. E. Peuster. Melliand 42, No. 1: 8-14 (1961).
Control mechanisms, such as warp and weft stop motions, control of bobbin drive, control of the performance of box motions, and control of taking-up motions, are reviewed. (1967)

NEW LOOMS. J. Pilisi. Industrie Textile: 893-897 (Dec. 1960). In French. Through BCIRA 41: 799 (1961).
New automatic looms are reviewed generally, including the Sulzer, Dewatex, Onemack, Draper, and Maxbo looms. (1968)

HIGH-SPEED PICK-AND-PICK GUNNE LOOM. M. Michelitsch. Melliand Textilber. 42, No. 1: 33-36 (1961). In German. Through BCIRA 41: 800 (1961).
The construction and drive of the loom, mechanisms for the warp-thread movement, and picking mechanisms are described and illustrated. (1969)

POTENTIAL USES OF SULZER LOOMS FOR COTTON, WOOL, AND MANMADE CHEMICAL FIBERS. QUALITATIVE AND ECONOMIC EFFECTS. M. Steiner. Melliand Textilber. 41, No. 12: 1496-1505 (1960). In German. Through BCIRA 41: 632 (1961).
Space and personnel requirements of the Sulzer weaving machine, the effect of raw material and yarn qualities, noise, and limitations of future developments in weaving are discussed. (1970)

DEVELOPMENTS IN THE MODERN JACQUARD. PART 3. Textile Recorder 78: 68-70, 67 (Mar. 1961).
Edited abstracts of a series of lectures held at Blackburn College of Technology are continued. Fundamental principles of textile designing, by G. L. Welsby and K. Crook, p. 68-69; Moquette and carpet jacquards, by R. W. Shackleton, p. 69-70, 67. (1971)

LOOM CLOTH TAKEUP MOTIONS. M. D. Erofejew. Textil-Praxis 14: 1011-1014 (1959). In German. Through J. Textile Inst. 51: A72 (1960).
Further experiments are described using Textima and Rüti looms modified to incorporate either positive or negative takeup motions. Warp tension and pick density were arranged for whatever takeup motion was operating. Measurements were made of warp tension, pick density, mean cover factor and the position of the fell. At higher cover factors, the positive motion wove with more fell movement than did the negative. With negative takeup, pick density is a function of warp tension, and cloths of similar cover factor could be made on both looms at the same warp tension. With positive takeup, the picks per inch are independent of warp tension and it is suggested that the negative motion is superior because the optimum tension is automatically achieved. Better control of takeup can be achieved with more pawls on the ratchet takeup mechanism. (For earlier paper see abstr. 2364/59.) (1972)

JACQUARD WEAVING. D. De Jonghe, V. Galens, and M. Tavernier. Rev. Textilis 16, No. 6: 25-32; No. 7/8: 47-51; No. 9: 56-63; No. 10: 29-40; No. 11: 47-50 (1960). In Dutch. Through BCIRA 41: 804 (1961).
For Part 1 see abstr. 3923/60. (1973)

PHYSICAL PROPERTIES OF JUTE WARP YARN IN RELATION TO WEAVING PERFORMANCE. PART 2. I. B. Chakraverti and P. C. Bannerjee (Indian Jute Mills Assoc. Research Inst.). Textile Mfr. 87: 87-91 (Mar. 1961).
The data presented represent a summary of long term tests conducted in 32 jute mills on the effects of physical properties of sized and unsized yarns on warp breakage and loom efficiency. For Part 1 see abstr. 4832/60. 21 refs. (1974)

NEW WEAVING PARAMETER. THE WOVEN UNIT. B. Setti and G. Galimberti. Riv. Tessile 36, No. 12: 1309-1317 (1960); 37, No. 1: 3-10 (1961). In Italian. Through BCIRA 41: 806 (1961).
A measuring unit for estimating the weaving production independently of the raw material and the type of fabric produced is proposed, and possible practical applications are pointed out. (1975)

PRODUCTIVITY MEASUREMENT IN THE WEAVING SHED. PART 2. SCIENTIFIC METHODS IN WORKS STATISTICS. H. Weber. Spinner u. Weber 79, No. 1: 35-39 (1961). In German. Through BCIRA 41: 807 (1961).
Statistical productivity-control methods are briefly reviewed, and factors affecting loom efficiency and the effects observed in individual cases are pointed out in several examples. (1976)

WEFT-INSERTING MECHANISMS. D. Bracke and O. Van Looken. Rev. Textilis 16, No. 9: 47-50; No. 10: 49-53; No. 11: 39-42 (1960). In Dutch. Through BCIRA 41: 803 (1961).
For previous parts see abstr. 3922/60 and 94/61. (1977)

Knitting C3

TERMINOLOGY FOR HOSIERY AND KNITTING PROCESSES. R. H. Uhlmann. Melliand Textilber. 41, No. 2: 187; No. 6: 711; No. 8: 972; No. 10: 1228-1229; No. 11: 1364; No. 12: 1524 (1960). In German. Through BCIRA 41: 633 (1961). (1978)

UNIFORM SEAMLESS HOSIERY LENGTH. J. C. Cobert. Textile Inds. 125: 115, 126-128 (Apr. 1961).
The practical application of the Volumet to seamless hosiery length control is described. (1979)

TEXTURED EFFECTS IN SEAMFREE STOCKINGS. Hosiery Trade J. 68: 83-85 (Apr. 1961).
The production of openwork designs by float-plating is described and illustrated. (1980)

SEAMLESS STOCKING LENGTH CONTROL. J. C. Cobert. Hosiery Trade J. 68: 86-88 (Apr. 1961).
The factors affecting seamless hosiery length and the functions and application of the Volumet control system are discussed. (1981)

QUALITY CONTROL FOR ORLON/NYLON STRETCH SOCKS. Shelton Hosiery Mills. Textile Inds. 125: 116-117, 121 (Apr. 1961). (1982)

QUALITY CONTROL IN HOSIERY MANUFACTURING. J. McDonald (Burlington Hosiery Co.). Textile Bull. 87: 41-44 (Apr. 1961).
Control procedures used by Burlington Hosiery Co. throughout all manufacturing operations including throwing, knitting, gray operations, and finishing are briefly reviewed. (1983)

ORLON YARNS FOR DOUBLE JERSEY FABRICS. C. Reichman. Knitted Outerwear Times 30: 3, 29 (Mar. 27, 1961).
General information on yarn properties and processing and the advantages of using Orlon 42 alone and blended with cotton and wool for double jersey fabrics. (1984)

PAPERMAKER, LOOK TO YOUR KNITTING. R. H. Marks (Enterprise, Inc.). Ind. Eng. Chem. 53: 32A-33A (Apr. 1961).
The Marks web-fed process begins by unrolling and slitting a big roll of paper into 64 thin ribbons which twist through a resin and wax bath onto spindles. These bobbins, placed on a circular knitting machine without rewinding, feed the paper yarn to needles which fashion the fabric. The properties and applications of these fabrics are noted. (1985)

FUNDAMENTALS OF WARP KNIT ENGINEERING. PART 9. A. Reisfeld (Gehring Textiles). Knitted Outerwear Times 30: 7-9, 36-38 (Mar. 27, 1961).
The processing, properties, and knitting performance of continuous filament yarns modified either in the course of yarn manufacture (e.g. slub yarns) or after spinning on a chemical basis (e.g. space dyeing or saponifying, immunizing, coating) or a mechanical basis (bulking, texturing, abrading, and fancy doubling) are discussed. 17 refs. (1986)

PRACTICAL HINTS FOR KNITTERS AND KNITTER-MECHANICS. PART 6. HORIZONTAL BED PURL MACHINES. Hosiery Trade J. 68: 116-117 (Apr. 1961).
Pointers on chain drive lubrication, lint and dirt removal, feeder adjustment, and preventing selvage curling. (1987)

QUEENS COARSE GAGE MODEL B V-BED FLAT MACHINE. Queens Mach. Corp. Knitted Outerwear Times 30: 5 (Mar. 27, 1961). (1988)

ECONOMICS OF MACQUEEN TAILOR-KNITTING. Hosiery Trade J. 68: 126-128 (Apr. 1961).
Costs compiled for Macqueen Tailor-Knitting show the estimated comparative cost per garment using a plant of 6, 24, or 56 Tailor-Knitting machines. Included in the figures which are quoted are: floor area required; total equipment expenditure; garment-producing capacity; cost of design and translation into perforated film form; and estimated annual expenditure on staff and factory personnel. (1989)

KNITTED OUTERWEAR TIMES 1961 YEARBOOK EDITION. Knitted Outerwear Times 30, No. 17: 1-356 (Apr. 20, 1961).
This yearbook presents an array of basic information gathered from the Knitted Outerwear Times of the previous 12 months, selected because of its enduring value and, in some cases, condensed in form for handy reference. The survey of available equipment covers not only American machinery, but types and special features of foreign machines. (1990)

CIRCULAR LHDS-6 LINKS MACHINE. Wildman Jacquard Co. Modern Textiles Mag. 42: 67-69 (Apr. 1961).
Features and design possibilities of the machine are outlined, and the operation of the jacquard mechanism is described in detail. (1991)

INTERLOCK SWEATER STRIP MACHINES. PART 1. C. Reichman. Knitted Outerwear Times 30: 3, 5 (Apr. 3, 1961).
The basic mechanisms, operation, and types of sweater strip machines are described. (1992)

INTERLOCK SWEATER STRIP MACHINES. PART 2. C. Reichman. Knitted Outerwear Times 30: 3-9 (Apr. 10, 1961).
Features and operation of the three types of single-purpose sweater strip machines presently available (Wildman Jacquard A1, Scott & Williams MFRC, and Philip multi-feed interlock) are described. (1993)

INTERLOCK SWEATER-STRIP MACHINES. PART 3. C. Reichman. Knitted Outerwear Times 30: 3-9 (Apr. 17, 1961).
Features of the following multipurpose interlock machines are described: OTA (Ordnance Gauge Co.); TAI-24 and TJI-12 (Wildman Jacquard Co.); FKT (F. Morat KG); IC-special (C. Terrot & Sohne); MACBOR (G. Lebocey & Cie); SJD (Fouquet-Werke); and Suprint (Mayer & Cie). (1994)

WILDT MELLOR BROMLEY 6/LM/6 DOUBLE JERSEY MACHINE. Wildt Mellor Bromley Ltd. Hosiery Trade J. 68: 118-119 (Apr. 1961).
Features and operation of the machine, designed to produce the full range of nonjacquard jersey fabrics (e.g. interlock or double knit fabric, single piqué, knit-miss bourrelet, eightlock, texi-piqué, and double piqué) are noted. (1995)

EUROPEAN KNITTING DIARY. R. Innes. Hosiery Trade J. 68: 101-104 (Apr. 1961).
Among the developments discussed are: overlock seaming machine (Union Spezial Maschinenfabrik GmbH); Rimoldi 60/1/L and 60/1/LQL seaming machines; Nebel ladder-resist structure for seamless hosiery; and Danish ladder-resist structure for FF hosiery. (1996)

SERVO-STOP MODEL TM STRAPPING MACHINE. Hosiery Trade J. 68: 114-115 (Apr. 1961). (1997)

UNIVERSAL SUPRAMAT-B V-BED FLAT MACHINE. Knitted Outerwear Times 30: 7 (Apr. 3, 1961). (1998)

Fabrics C4

COMPRESSIONAL RESILIENCE OF BLANKETS AND CARDED-FIBER MASSES. PART 2. COMPRESSIONAL RECOVERY. T. Matsuo. J. Soc. Textile Cellulose Inds. Japan 16, No. 12: 1009-1013 (1960). In Japanese (English summary). Through BCIRA 41: 504 (1961).
See abstr. 4398/60. The compressional recovery is discussed in relation to the rheological character of the bent fibers and the friction between them. (1999)

INVESTIGATIONS ON WASH- AND BOILPROOF WOOL BLANKETS. M. Dominik. Melliand Textilber. 41: 1232-1237 (1960). In German. Through J. Textile Inst. 51: A612 (1960).
Two types of wool blanket available in New Zealand and claimed to be fast to washing and boiling, were tested for physical and chemical properties, boiled for 3 hr in distilled water without mechanical action, and again subjected to chemical tests. The shrinkage was also measured and found to be small. The blankets were also tested for shrinkage after washing in a household washing machine. Both blankets had the same construction, and one had a shrink-resist finish. Normal blankets and knitted fabrics, both chlorinated and unchlorinated, were tested for purposes of comparison. All the fabrics were boilproof, the only disadvantage being an adverse effect on the pile. Only the shrink-resist New Zealand blanket and the chlorinated knitted fabric were washproof. (2000)

CONSUMER'S VIEWPOINT WITH RESPECT TO QUALITY OF PURCHASED GOODS. P. Kaufman (M. Lowenstein & Sons). Textile Bull. 87: 47-49 (Apr. 1961).
The importance of quality control at the gray mill in reducing excessive seconds in finished goods and resulting consumer complaints is discussed. (2001)

CREASE RECOVERY OF VISCOSE RAYON FABRICS WITH DIFFERENT WEFT DENSITIES AND WEAVES. W. Wegener. Melliand Textilber. 41, No. 12: 1471-1478 (1960). In German. Through BCIRA 41: 704 (1961).
Untreated viscose rayon fabrics were examined for their crease recovery behavior in dependence of time and crease position. In the first series of experiments the tests were made on fabrics with twill weave and three different weft densities, in the second on fabrics with various weaves. The results are discussed and presented in graphs. (2002)

QUALITY CONTROL. Industrial Elastic Corp. Textile Inds. 125: 65-68 (Apr. 1961).
The extensive evaluation and testing program used by Industrial Elastic Corp. in the manufacture of elastic braids and webbings is described. (2003)

WOVEN STRETCH FABRICS. P. M. Thomas. Modern Textiles Mag. 42: 33 (Apr. 1961).
The difficulties inherent in copying and designing stretch fabrics and critical factors in processing are outlined. (2004)

CENTERING A WARP-STRIPE DESIGN. E. B. Berry. Textile Bull. 87: 66-69 (Apr. 1961). (2005)

DENSITY OF FABRICS AND THE LAWS GOVERNING IT. J. J. Barciela. Tintoreria Ind. No. 54: 255-263 (June 1960). In Spanish. Through BCIRA 41: 883 (1961).
Various mathematical formulas (Ashenhurst, Armitage, Law, Brierley) are reviewed, and a table is given listing the type of fabric, count of yarn used (warp and weft), density coefficient, and weave. (2006)

DESIGNING OF SUITABLE CLOTHING ON THE BASIS OF REQUIRED HEAT INSULATING PROPERTIES. PART 1. PENETRATION OF HEAT THROUGH THE CLOTHING. M. Jokl. Textil 15, No. 12: 457-460 (1960). In Czech. Through BCIRA 41: 887 (1961).
A method is proposed for calculating the design of clothes for agricultural workers. (2007)

CALCULATION METHODS FOR COVERING ELECTRICAL WIRES AND CABLES WITH TEXTILE BRAIDS. M. Boncelj. Textil-Praxis 15, No. 12: 1266-1271 (1960). In German. Through BCIRA 41: 809 (1961).
Equations are given for determining the yarn thickness, thickness of the braid, cover factor of the cable surface, cover angle, weight of the braid, etc. High-speed braiding machines are illustrated. (2008)

DORRON NONWOVEN FABRIC. D. Morgenstern. Am. Textile Reptr. 75: 53-57, 98 (Apr. 13, 1961).
Dorron is produced by a new production process combining the chemical bonding and mechanical interlocking needle-punch systems with modifications (USP 2 970 365). The history of its development is traced, and details and advantages of the process are described. (2009)

HUNTER NEEDLE-FELTING MACHINERY. James Hunter Mach. Co. Am. Textile Reptr. 75: 9-10, 31 (Mar. 30, 1961).
Features, operation, and advantages of the Hunter Fiber/Locker and batt-making equipment are described. (2010)

MILLED FELT INDUSTRY: USE OF SYNTHETIC FIBERS. F. I. Kusjmitschew and J. I. Mertwischtschew. Tekstil. Prom. 19, No. 10: 52-54 (1959). In German. Through J. Textile Inst. 51: A250 (1960).
Fabrics consisting of 100% wool and of blends of wool with 10, 20, 30, 45, 60% of rayon, nylon 6, nylon 66, polyester fiber and acrylic fiber were milled, and the weight per unit volume and the shrinkage were determined. Shrinkage decreased as the wool proportion of blends with any other fiber diminished; the nylon 66 had the least effect and the acrylic fiber had the greatest effect. (2011)

RAW MATERIAL PROBLEMS IN WOOL FELT MANUFACTURE. H. Dietrich. Melliand 42, No. 1: 3-6 (1961).
The advantages and limitations in the use of wool versus manmade fibers in the manufacture of felt are discussed under the headings of fiber properties, cost, and the effects of the manufacturing processes on the fibers. (2012)

SHRINKAGE OF RAYON FABRICS. M. T. Mehta. Silk Rayon Inds. India 4: 7-8, 17 (Jan. 1961).
The percentage shrinkage in Palace crepe and half crepe rayon fabrics is reported. (2013)

WEAVING COLONIAL SPREADS. T. Hargreaves. Textile Inds. 125: 73-77, 143 (Apr. 1961).
Pointers on the modification of the basic three-pick terry weave to improve loop formation in the heavy pile ends in Heirloom and Early American bedspreads. (2014)

ADSORPTION OF POLYMERS ON GLASS AND OTHER SUBSTRATES. PART 1. R. R. Stromberg and G. M. Kline. Modern Plastics 38: 123-124, 129-133, 192-196 (Apr. 1961).
The nature of the attractive forces between resins on the one hand and fibers on the other must be determined in order to understand the reinforcement mechanism and thus be in a position to make rational selections of the components of reinforced plastics. The following factors are considered in an exploration of the adsorption behavior of polymers onto glass, silica, alumina, and other adsorbents: (1) rate of adsorption, (2) nature of adsorbent surface, (3) effect of solvent, and (4) molecular weight of polymer. 18 refs. (2015)

BACKING, COATING, AND BONDING WITH RUBBER LATEX. P. G. Cook (Gen. Latex & Chem. Corp.). Dyer 125: 443-445 (Mar. 24, 1961).
The various textile applications of synthetic rubber latices (carpet and upholstery backing, coatings, binders for nonwoven fabrics, double texture fabrics, flocking and printing pastes) and the importance of proper selection and compounding for a particular end-use are discussed. (2016)

SELVAGE TRIMMING APPARATUS. G. Bovy. Melliand 42, No. 1: 46 (1961).
The advantages and disadvantages of various methods of selvage trimming (manual, singeing, shearing with pneumatic end removal, disc knives) are noted, and the advantages of the Dison mechanical hand shearing machine are cited. (2017)

FINISHING D

RECENT PROGRESS IN DYEING AND FINISHING MACHINERY: 1960-61. E. Moss (Brit. Cotton Ind. Research Assoc.). Dyer 125: 385-391 (Mar. 10, 1961). (2018)

DYEING AND FINISHING MACHINERY PROGRESS: 1960-61. Dyer 125: 393-411 (Mar. 10, 1961). (2019)

QUALITY CONTROL IN DYEING AND FINISHING. W. T. Holliday (Riegel Textile Corp.). Textile Bull. 87: 50-53 (Apr. 1961).
Pointers on process and product control. (2020)

FINISHING AND DYEING OF AGILON D FABRICS. Can. Textile J. 78: 43-44 (Mar. 17, 1961).
Recommendations for dyeing Agilon D yarns and for scouring, bulking, and setting knit fabrics are given. (2021)

FINISHING POLYESTER FIBERS MIXED WITH WOOL, COTTON, OR VISCOSE RAYON STAPLE. G. Rausenberger and J. Thimm. Chemiefasern 10, No. 12: 819-823 (1960). In German. Through BCIRA 41: 831 (1961).
Directions are given for various finishing treatments of articles from Trevira filaments, Trevira/worsted yarn, Trevira/cotton, and Trevira/viscose rayon staple. (2022)

RECENT DEVELOPMENTS IN THE DYEING AND FINISHING OF HOSIERY YARNS AND KNITWEAR: 1960-61. H. W. Partridge (Stevensons (Dyers) Ltd). Dyer 125: 360-364 (Mar. 10, 1961). (2023)

CARPET FINISHING. A. Crossland (Carpet Trades Ltd). Textile Inds. 125: 136-143 (Apr. 1961). (2024)

WET AND DRY FINISHING OF ESKIMO CLOTH. A. Seidel. Melliand Textilber. 41: 749-753 (1960). In German. Through J. Textile Inst. 51: A415 (1960).
The article describes the finishing procedures for wool dyed and piece dyed Eskimo cloths of various constructions. (2025)

Chemical processes D1

LBS PROCESS FOR SIMULTANEOUS DRYCLEANING AND DISINFECTION OF WOOLEN HOSPITAL BLANKETS. H. Ostertag. Melliand Textilber. 41: 763-768 (1960). In German. Through J. Textile Inst. 51: A476 (1960).
Although economically preferable to water-washing, drycleaning does not ordinarily disinfect, but rather spreads infection. LBS (produced by Th. Goldschmidt AG) is a bactericide and fungicide, is strongly surface-active, and has a detergent action. It is soluble in tri- and perchlorethylene and forms a stable emulsion when a small amount of water is added to aid its bactericidal properties. Although this amount of water (1.5-2%) is normally too high for drycleaning, in the presence of LBS no felting or shrinkage of wool blankets is caused. A simultaneous cleaning and sterilizing process is described using an initial charge of 0.5% LBS by weight of cleaning fluid and replenishing this periodically as it exhausts onto the wool. Tests have shown the process to be effective against a wide range of bacterial species. (2026)

ANTISTATIC FINISHES. K. W. Mieszkis. Nylon Outlook No. 10: 8-15 (Spring 1961).
The general nature of antistatic finishes, the methods of their application, and testing of their effectiveness form the subject of this article. (2027)

SHORT HISTORY OF BLEACHING METHODS. Rev. Textilis 16, No. 9: 39-45, 70 (1960). In French. Through BCIRA 41: 822 (1961). (2028)

BORATE BUFFERS IN HYDROGEN PEROXIDE REACTIONS. I. R. Wilson. Australian J. Chem. 13, No. 4: 582-584 (1960). Through BCIRA 41: 648 (1961).
Interference by borate buffers in oxidation reactions is discussed. (2029)

IMPROVEMENT OF THE WRINKLE RECOVERY OF COTTON BY REACTION WITH FORMALDEHYDE. S. J. O'Brien and W. J. van Loo, Jr. (Am. Cyanamid Co.). Textile Research J. 31: 276-281 (Mar. 1961).
Data are presented showing the reaction of formaldehyde with cotton fabric using phosphoric acid, magnesium chloride, and zinc nitrate as catalysts and the improvement in wrinkle recovery of the fabric obtained by these treatments. A theoretical equation which fits the relationship between improvement in wrinkle recovery and concentration of formaldehyde reacted with cotton was derived which suggests that only part of the reacted formaldehyde is involved in the cross-linking of cellulose molecules. 32 refs. (2030)

NOTES ON CHLORINE IN BLEACHING. Textile Mfr. 87: 109-112 (Mar. 1961).
This general article on the development and use of sodium hypochlorite as a bleaching agent includes a discussion of the following: commercial manufacture; factors affecting activation and decomposition; continuous processes; bast fiber purification; linen bleaching; use in clearing treatments; and advantages for cotton bleaching. (2031)

FLUORESCENT BRIGHTENING AGENTS: THEIR PHOTODECOMPOSITION IN AQUEOUS SOLUTION AND ON SUBSTRATE AND PHOTOTENDERING ACTIVITY FOR CELLULOSE. E. H. Daruwalla and C. I. Peter (Univ. Bombay). Textile Research J. 31: 263-276 (Mar. 1961).
Photodecomposition and loss in fluorescence on exposure to sunlight and Fade-Ometer arc lamp of brightening agents derived from 4:4'-diaminostilbene-2:2'-disulfonic acid and a thiazole derivative when present in aqueous solution and on different cellulosic substrates were studied. Changes in fiber characteristics, such as reduction in bursting strength, increase in fluidity of the cuprammonium hydroxide solution containing the brightened material, and increase in the reducing power of cellulose were determined for samples treated with different brighteners and exposed for different durations. An attempt is made to correlate fading behavior with the tendering activity of these compounds for cellulose. 20 refs. (2032)

OPEN-WIDTH BLEACHING. H. Homuth. Melliand Textilber. 42, No. 1: 70-73 (1961). In German. Through BCIRA 41: 821 (1961).
The combined open-width bleaching and washing installation, consisting of Intensiva and Cascade units is described. The first of these installations (Joh. Kleinewefers Söhne) has been in operation since January 1960 in the dyeing, printing, and finishing works at Paul Boheim AG, and is used for bleaching, imparting absorbability, removing the alkali after bleaching, subsequent washing of vat prints, desizing, etc. (2033)

NEW WAYS OF OPEN-WIDTH BLEACHING, FROM THE DISCONTINUOUS TO THE FULLY CONTINUOUS PROCESS. F. A. Schmidt. Melliand Textilber. 41, No. 12: 1527-1533 (1960). In German. Through BCIRA 41: 645 (1961).
New open-width desizing and bleaching machines are described, from high-productivity installations, operating on the semi-continuous and fully-continuous principle, to systems developed on the principle of unit construction, which can be adapted to the output required and the application intended. (2034)

PROPERTIES OF SOME SYNTHETIC FIBERS IN CARBONIZING. G. von Hornuff. Melliand Textilber. 41: 474-478 (1960). In German. Through J. Textile Inst. 51: A357 (1960).
Carbonizing conditions that would remove unwanted cellulose material without destroying the synthetic fibers in blends containing polyvinyl chloride, acrylic, nylon, and polyester fibers were investigated. (2035)

EPOXIDIZED POLYOLEFIN RESINS. C. W. Johnston and F. P. Greenspan. Modern Plastics 38: 135-143, 198 (Apr. 1961).
Oxiron resins represent a versatile family of new epoxy materials capable of curing through reactive double bonds as well as through epoxy groups. The chemistry of these materials, with particular emphasis on their reactivity and curing behavior, properties, and application in some types of reinforced plastics are discussed. (2036)

DAMAGE IN CARBONIZING, AND TEST METHODS. H. Zahn. Textil-Praxis 14: 928-930, 1028-1034 (1959). In German. Through J. Textile Inst. 51: A130 (1960).
In the first part of the paper, the various factors influencing carbonizing with sulfuric acid are enumerated, and in the second, test methods are reviewed. The irreversible changes that take place during the process are summarized as: increase in total sulfate (370%), increase in number of amino groups (57%), increase in urea-bisulfite solubility (17%), decrease in tryptophan content (16%), and increase in alkali-solubility (12%). Total sulfate is thus recommended as the best criterion for carbonized wool, while alkali-solubility is suitable for routine testing after neutralization. (2037)

EFFECTS OF ACIDITY AND OF MOISTURE CONTENT IN WOOL CARBONIZING. G. Wibaux, G. Mazingue, and M. Van Overbeke. Bull. Inst. Textile France No. 83: 85-98 (1959). In French. Through J. Textile Inst. 51: A29 (1960).
The effects of acidity and of moisture content on damage occurring in wool carbonizing were investigated, using Continental, especially French, methods and, in addition, using exceptionally rigorous conditions. It is concluded that: (1) the loss in strength of the fibers when carbonizing in an anhydrous medium is not as great as that found by Crewther and Pressley (see abstr. 2396/59); (2) under industrial conditions the presence of too great an amount of water at the beginning of carbonizing causes a perceptible loss in strength; and (3) alkali-solubility alone cannot be considered a sufficient test for damage in carbonizing. (2038)

CARBONIZING AND WOOL DAMAGE. M. Robinet and R. Bielen. Ann. Sci. Textiles Belges No. 1: 94-119 (1960). Through J. Textile Inst. 51: A358 (1960).
Part 1 is a laboratory study of carbonizing on loose wool, yarn, and cloth. After acidifying, the samples were dried from regains of 80%, 125%, and 150% and baked at temperatures of 90°, 105°, and 120° C. Breaking load, and alkali- and urea-bisulfite solubility tests were made on the samples. Part 2 is a study of the effect of carbonizing on dyeing properties. The results show that the greater the amount of acid combined with the wool the greater the dyeing reserve. Part 3 is a study of the effect of wet and dry acid treatments on wool. The samples were either dried in a vacuum desiccator at room temperature and baked for 1 hr at 105° C or heated wet for 1 hr at 105° C. The wet treatment affects alkali-solubility, strength of the fibers, and loss on neutralizing more than dry treatment. This is in contrast with the results of Crewther and Pressley. Part 4 is a study of the effect of a sodium carbonate treatment both before and after carbonizing. Alkali-solubility tests are of little use when two such opposing treatments are used. On the other hand, the reduction in work to stretch the fibers was cumulative for the various processes. (2039)

THEORY AND PRACTICAL USE OF FLUOROCHEMICALS ON TEXTILES. H. Enders and H. K. Wiest. Textil-Praxis 15, No. 12: 1293-1299 (1960). In German. Through BCIRA 41: 847 (1961).
Theoretical principles of water repellency and waterproofing, as well as oil-repellent impregnation of textiles, are discussed, with special reference to the use of water- and oil-repellent polymerization products based on fluorides of hydrocarbons, carboxylic acids, and carboxylic acid esters. The oil-test for determining the oil-repellency of the finished fabric is described, and the capillary-active properties and behavior to soiling of fluorocarbon-treated materials are illustrated. 15 refs. (2040)

MACHINES AND PROCESSES FOR MILLING WOOL FELTS. H. Dietrich. Textil-Praxis 14: 900-904, 1000-1003 (1959). In German. Through J. Textile Inst. 51: A129 (1960).
A general discussion is given on different types of machines available for hardening wool felts and then, in the second article, brief descriptions are given of machines of American and European manufacture. (2041)

FIFTEEN YEARS OF EVOLUTION AND OF EXPERIMENTAL RESEARCH INTO WASHING AND CARBONIZING RAW WOOL, BACKWASHING OF TOPS, AND STEAMING OF WOOL YARNS. M. Van Overbeke. Bull. Inst. Textile France No. 87: 35-59 (1960). In French. Through J. Textile Inst. 51: A441 (1960).
A survey is given of commercial developments during 1945-60 in various processes for converting wool to yarn. Details are given of machinery (with illustrations), methods of processing, and characteristics of the finished product. Experimental research on wool washing and carbonizing is also discussed. (2042)

WET-FINISHING OF KNIT GOODS FROM CROSS-BRED WOOL. P. Seeligmüller and H. Müller. Deut. Textiltech. 10: 86-89 (1960). In German. Through J. Textile Inst. 51: A317 (1960).
The conditions of the wet-finishing processes (pH, temperature, liquor ratio, and mechanical action) have been worked out for knitted goods of cross-bred wool to avoid felting, but facilitate relaxation shrinkage. (2043)

STUDIES ON THE FIBROUS ACETYLATION OF COTTON. PART 1. ACETYLATION OF COTTON FABRIC BY THE LIQUID PHASE METHOD. PART 2. ACETYLATION OF COTTON FABRIC BY THE SEMI-LIQUID PHASE METHOD (SO-CALLED PADDING METHOD). W. Tsuji, R. Kitamaru, Y. Sakaguchi, and K. Kimura. J. Soc. Textile Cellulose Inds. Japan 16, No. 12: 1020-1031 (1960). In Japanese (English summary). Through BCIRA 41: 471 (1961).
Part 1. Cotton fabric can be acetylated to a high degree of substitution by the liquid-phase method without loss of tensile strength. Preparation of the acetylation bath, its stability, and comparisons of various catalysts and diluents are discussed. Part 2. Cotton fabrics, pretreated with acetic acid, were immersed in a bath of acetic anhydride and catalyst, squeezed to 60-70% pick-up and heated in a closed vessel. Acetylation to about 30 mol%, without lowering of tensile strength, is achieved in a very short time. (2044)

AMINIZATION OF COTTON: COST ANALYSIS APPLICATION. S. P. Koltun, K. M. Decossas, G. L. Drake, Jr., E. F. Pollard, and E. L. Patton (So. Reg. Research Lab.). Am. Dyestuff Reptr. 50: 241-244 (Apr. 3, 1961).
Cost data are provided that are needed for considering the feasibility of producing AM cotton (chemically modified cotton in which aminoethyl groups are introduced into the cellulose molecule). Investment and processing costs are compared with those reported in an earlier cost article. 5 refs. (2045)

COTTON QUALITY STUDY. PART 6. WRINKLE RESISTANCE AND RECOVERY FROM DEFORMATION. H. Tovey (Nat. Cotton Council). Textile Research J. 31: 185-252 (Mar. 1961).
The literature on the chemical and physical processes involved in improved finishing methods and materials for producing crease resistant cotton is reviewed since 1949 when the Nat. Cotton Council's first study on crease resistance was published. Topics for needed research are also proposed. 820 refs. (2046)

DIMETHYLOLTRIAZONE FINISHING AGENTS WITH LONG-CHAIN ALKYL SUBSTITUENTS FOR COTTON TEXTILES. S. L. Vail, J. G. Frick, Jr., P. J. Murphy, Jr., and J. D. Reid (So. Reg. Research Lab.). Am. Dyestuff Reptr. 50: 200-204 (Mar. 20, 1961).
Dimethylol derivatives of three new triazones, with n-octyl, n-dodecyl, and n-octadecyl groups as 5-substituents, were examined as reactive finishing agents for cotton fabrics. Only the one derived from octyltriazone produced wrinkle resistance. The degree of wrinkle resistance was low, and it is concluded that this molecule is too large for more than partial access to the fiber and can, therefore, produce only limited wrinkle resistance. 11 refs. (2047)

PERMANENT SHAPING OF WOOL BY THE SI-RO-SET PROCESS. H. E. Schiecke. Melliand Textilber. 41: 209-215 (1960). In German. Through J. Textile Inst. 51: A317 (1960).
The chemical basis of the process using Si-Ro-Set solution is discussed, and some practical problems of application are considered. These include the possibility of staining due to the presence of metals, the occurrence of smell, the change of shade of dyes, the disadvantages of the high moisture content required by the process, and the causes of unsatisfactory durability of the creasing effect. A method is given for the removal of creases when garments are to be altered. (2048)

RELATIONSHIP BETWEEN DEGUMMING AND THE LOUSINESS DEFECT IN SILK. P. Carboni. Riv. Tessile 36, No. 11: 1191-1193 (1960). In Italian. Through BCIRA 41: 820 (1961).
New experiments carried out in recent years on laboratory and industrial scales are reported, from which it is concluded that, for satisfactorily reducing lousiness and obtaining pure scrooping silk, the degumming bath should contain, in the case of white silk, 8 g sodium carbonate and 2 g commercial boric acid/l distilled water. The bath temperature should be 98-100° C; the degumming process is completed within 15-20 min. In the case of yellow silk, a small quantity of soap must be added to bleach the fibroin (2 g soap, 6 g sodium carbonate, 2 g boric acid/l water). (2049)

MECHANICO-CHEMICAL CHANGES IN WOOL CAUSED BY ALKALINE TREATMENT. G. Satlow. Melliand Textilber. 40: 1426-1429 (1959). In German. Through J. Textile Inst. 51: A161 (1960).
As an explanation of the reduced urea-bisulfite solubility and unaffected cystine content of mildly alkaline-treated wool, Kessler and Zahn (see abstr. 2398/58) have postulated that such treatments caused some of the disulfide bonds to reorientate themselves and form links between, rather than within, polypeptide chains. Intra-chain links are regarded as affecting the load-extension curve of a wet wool fiber in the extension range 0-10%, while the effect of the inter-chain links is felt in the range 30% to break. A comparison of the load-extension curves of fibers untreated and treated with 0.1 N-NaOH lends qualitative support to the re-orientation theory. (2050)

COMPARISON OF FATTY ACID ESTERS OF SUCROSE AND OF POLYOXYETHYLENE IN BUILT DETERGENT COMPOSITIONS. L. I. Osipow and F. D. Snell (Foster D. Snell Inc.). J. Am. Oil Chemists Soc. 38: 184-189 (Apr. 1961).
The differences, and the consequences of such differences, in the cryoscopic forces acting between combinations of anionic agents, particularly alkylaryl sulfonates, with fatty acid esters of sucrose and of polyoxyethylene are examined. 12 refs. (2051)

FLAMEPROOF FINISHING OF CELLULOSIC TEXTILES. M. Janko. Textil 15, No. 12: 471-474 (1960). In Czech. Through BCIRA 41: 844 (1961).
The theory of flameproofing is discussed, flameproof finishes and their examination under laboratory and practical conditions are reviewed, and the properties of Pyrofix (Czech. Research Inst. for Textile Finishing) are described and compared with those of other flameproofing agents. This finish contains antimony oxide, a thermoplastic bonding agent, a chlorinated substance, softening and emulsifying agents, softening agents and other components. (2052)

COSTING THE APO-THPC FINISH. K. M. Decossas (So. Reg. Research Lab.). Textile Inds. 125: 135, 149-150, 155-158, 162 (Apr. 1961).
Investment and processing costs are reported for the application of a new and improved flame retardant finish to cotton in a hypothetical plant. The process can be accomplished in the usual equipment for resin finishing. Therefore the processing costs are applicable to any APO-THPC resin treatment of 8 oz twill fabric to 10% resin add-on that might be done at a rate of 120 yd/min intermittently with other chemical processing in the same equipment at combined annual production rates equivalent to those specified. Also reported are the importance of resistance to fire as a quality improvement in textile products. 8 refs. (2053)

RESPONSE OF COTTONS TO CHEMICAL TREATMENTS. PART 2. YARN MERCERIZATION. L. Rebenfeld (Textile Research Inst.). Textile Research J. 31: 253-257 (Mar. 1961).
Eleven experimental cottons were subjected to identical yarn mercerization in an attempt to determine whether differences in response to the treatment could be observed. The response was measured in terms of changes in yarn resilience, elastic modulus, and toughness. Changes in yarn elastic modulus and resilience were found to be dependent upon x-ray angle, although the dependence on x-ray angle was found to be the reverse of that for fiber elastic modulus. 7 refs. (2054)

MERCERIZATION AND MERCERIZING AGENTS. PART 2. G. Dollinger, M. Mohaupt, and M. Rösch. Melliand Textilber. 41, No. 11: 1398-1403 (1960). In German. Through BCIRA 41: 461 (1961).
Factors affecting the gloss attainable during mercerization are discussed, and some mercerizing agents are examined as regards their different wetting and shrinking power as well as foaming ability. For satisfactory mercerization, it is essential to use a mercerizing wetting agent and to choose an optimum mercerization time, temperature range, and concentration of the wetting agent. For hank-mercerization, slower-acting wetting agents should be used than for piece-good mercerization. Cresol-free and cresol-containing wetting agents are compared, and their advantages and disadvantages outlined. For Part 1 see abstr. 1007/60. (2055)

REACTIVITY OF SOME EPOXIDES TOWARD CELLULOSE. R. Steele (Rohm & Haas Co.). Textile Research J. 31: 257-262 (Mar. 1961).
The reactivity of 25 mono- and diepoxides towards cellulose under hot, anhydrous, acidic conditions was investigated using a small scale procedure. The extent of reaction was followed by changes in the density of the cellulose fibers, in their solubility in cuprammonium hydroxide, and in the crease recovery of the fabric. The results suggest that to be able to react with cellulose under these conditions, the epoxide must be nonvolatile, water-soluble to some degree, and free from steric hindrance of certain sorts. 14 refs. (2056)

INFRARED TESTS ON RESIN FINISHED CELLULOSE HYDRATE FILMS. PART 2. USE OF MODERN REACTANT-TYPES FOR DEUTERIZED CELLULOSE HYDRATE FOILS. W. Bandel. Melliand Textilber. 41, No. 11: 1391-1397 (1960). In German. Through BCIRA 41: 469 (1961).
The method is described and results are given of an investigation, carried out on 6 commercial crease- and shrinkproofing finishes and a no-iron finish to elucidate by infrared spectroscopy the reaction between finishing agent and cellulose hydrate. The measurements were carried out on films which are easier to examine spectrographically than fibers. The films (original and finished) were deuterized to obtain additional information as to the exchange of OH-groups between cellulose and resin. See abstr. 3761/58. 17 refs. (2057)

STUDIES ON THE RESIN DISTRIBUTION IN RESIN FINISHING OF FABRICS USING RADIOISOTOPES. PART 1. FUNDAMENTAL CONDITIONS OF MACRO-AUTORADIOGRAPHY. PART 2. EFFECTS OF PREDRYING CONDITIONS ON THE RESIN DISTRIBUTION. S. Yokoyama and Y. Onti. J. Soc. Textile Cellulose Inds. Japan 16, No. 12: 1050-1055 (1960). In Japanese (English summary). Through BCIRA 41: 466 (1961).
Part 1. Means for obtaining autoradiographs were studied and optimum conditions are defined. Part 2. The method was used to study the influence of predrying conditions on the resin distribution. Contact of the fabric with metal causes migration of bath solids and variation of resin content in the fabric; the migration is weaker the lower the predrying temperature and is small with radio heating. (2058)

RESINS FOR THE PROTECTION OF TEXTILE MATERIALS AGAINST ATTACK BY MICROORGANISMS. A. J. Hall. Textile Recorder 78: 52-55 (Apr. 1961).
Following a discussion of the main lines of approach being utilized in treating cotton to resist microbial attack, e.g. incorporation of materials to render the organisms inactive or by chemical modification of the fibers, the author discusses the treatment of cotton with formic acid solutions of methylolmelamines. The effects of variations in drying and curing procedures are described. 9 refs. (2059)

FACTORS AFFECTING THE CLEANSING OF GRAPHITE-STAINED LACE. N. R. Cohen (Sonneborn Chem. & Refining Corp.). Am. Dyestuff Reptr. 50: 205-207 (Mar. 20, 1961).
The variables encountered in scouring graphite-stained lace are analyzed. Differences such as fiber type, surface characteristics, yarn twist, fabric structure, type of graphite, detergent, scouring equipment, and the method of scouring all affect the cleansing operation. From all available evidence, it can be concluded that the one-bath method is the superior scouring technique. 13 refs. (2060)

REMOVAL OF GRAPHITE FROM NYLON TULLE AND LACE. H. vom Hove (Emserwerke AG). Melliand 42, No. 1: 26, 28 (1961).
A scouring recipe and method successfully used for graphite removal are briefly described. (2061)

ANTI-SHRINK FINISHING OF WOOL: HISTORY. H. Stussig. Melliand Textilber. 41: 323-325 (1960). In German. Through J. Textile Inst. 51: A318 (1960).
A survey is given of the development of theories of felting and of methods of preventing this form of shrinkage. (2062)

CONTROL OF THE DETERGENT POWER OF RAW WOOL SCOURING BOWLS. M. Rösch and J. Sporleder. Melliand Textilber. 41: 433-437 (1960). In German. Through J. Textile Inst. 51: A357 (1960).
Studies have been made of raw wool scouring on a production scale using a nonionic detergent in weakly alkaline baths and determining the residual grease content of the wool in each bowl at regular intervals of time. The first (steeping) bowl, although containing less detergent than the first scouring bowls, effected the greatest reduction in grease content of any bowl. Beyond the first scouring bowl, the residual grease content reached its lowest level which did not vary much with time in any of the succeeding bowls. Results of acid and of soap/soda scouring are shown for comparison. (2063)

CHLORINATING WOOL. M. Dominik. Melliand Textilber. 41: 875-879 (1960). In German. Through J. Textile Inst. 51: A514 (1960).
A study has been made of the process of treating wool with hypochlorite for imparting shrink resistance. Optimum operating conditions were found to be pH 8.0 and a concentration of 3-4% active chlorine. Increasing the dilution of the bath and cooling the liquor were found to improve the levelness of the treatment. (2064)

PRODUCTION OF KNITTED WOOL GOODS RESISTANT TO MACHINE WASHING. C. Maurer. Melliand Textilber. 41: 880-885 (1960). In German. Through J. Textile Inst. 51: A514 (1960).
In a series of experiments complementary to those of Dominik (see previous abstract), the author considers shrinkproofing wool goods with hypochlorite and permanganate. It was concluded that no improvement resulted from an increase in the active chlorine content over 3%, and that alkaline treatment conditions were preferable. An improvement in the process, in that less oxidizing agent was required to give adequate dimensional stability, resulted from pretreating the wool with a 1-5% dispersion of a plastic material. (2065)

EFFECT OF HYPOCHLORITE FINISHING ON THE QUALITY OF WOOL. H. Beiertz and G. H. Fröhlich. SVF Fachorgan Textilveredlung 14: 757-764 (1959). In German. Through J. Textile Inst. 51: A84 (1960).
The shrink resist finishing of wool goods using hypochlorite in the presence of a melamine precondensate (Melafix II) and a dispersing agent (Ultravon JF) has been studied. The use of 16 g active chlorine/kg wool gave best all-round results. These results were confirmed by full-scale tests in which handle, dyeing properties, and behavior in household washing were considered. Practical instructions are given for carrying out the process on a commercial scale. (2066)

COMMENTS ON "THE EFFECT OF HYPOCHLORITE FINISHING ON THE QUALITY OF WOOL." W. Bitterli. SVF Fachorgan Textilveredlung 15: 366-369 (1960). In German. Through J. Textile Inst. 51: A363 (1960).
It is pointed out that for effective use of the process adopted by the earlier authors (see abstr. 2066/61), the amount of Melafix II and Ultravon JF should be directly related to the amount of active chlorine in the treating bath. (2067)

GUIDE TO NEW TEXTILE AUXILIARIES: 1960-61. Dyer 125: 375-383 (Mar. 10, 1961).
An alphabetical list of some recently introduced textile chemicals and auxiliaries, with brief notes on their use as described by the manufacturers. (2068)

CHEMICAL AND MECHANICAL INVESTIGATIONS ON SHRINK-RESIST FINISHED WOOL KNITWEAR. J. F. Diehl. Melliand Textilber. 41: 325-329 (1960). In German. Through J. Textile Inst. 51: A318 (1960).
The felt-resist effects were determined of 19 recognized shrinkproofing treatments applied to samples of a knitted wool fabric. Mechanical properties (weight loss, and breaking load and extension) and chemical properties (cystine + cysteine-, tyrosine-, and tryptophan-content, solubility in alkali, in acid, and in urea-bisulfite, and acid dye uptake) were also determined. The rate of uptake of acid dye gave a useful indication of the effectiveness of the shrinkproofing treatment. (2069)

SELF-DIFFUSION OF SURFACE ACTIVE AGENTS IN NYLON. M. Hayashi. Bull. Chem. Soc. Japan 33: 1184-1188 (1960). Through BCIRA 41: 898 (1961).
The self-diffusion rates of sodium dodecyl sulfate, sodium tetradecyl sulfate, sulfuric acid, and hydrochloric acid in nylon were measured by a radioactive tracer method, and the results are discussed. (2070)

RECENT DEVELOPMENTS IN TEXTILE CHEMICALS: 1960-61. A. F. Kertess (Associated Chem. Co. Ltd). Dyer 125: 366-375 (Mar. 10, 1961). (2071)

REFORMING CROSS-LINKAGES OF WOOL WITH ALDEHYDES. PART 2. MECHANISM OF CROSS-LINKING. G. Decroix, G. Mazingue, and M. Van Overbeke. Bull. Inst. Textile France No. 84: 33-47 (1959). In French. Through J. Textile Inst. 51: A223 (1960).
Wool was treated with formaldehyde, acetaldehyde, propionaldehyde, acrolein and crotonaldehyde, and tested for alkali-solubility, presence of various amino acids, affinity for dyes, presence of tyrosine, and isoionic point. Unsaturated aldehydes are more reactive than saturated ones. New linkages result from a blocking of free amino groups (either in terminal position or within polypeptide chains) on the one hand, and from a blocking of the amino groups of the salt linkages on the other hand, acid groups not being affected. The aldehydes have no effect on tyrosine. (2072)

EFFECT OF SUBSTITUTION OF IODINE ON SOLUBILITY OF WOOL IN UREA-BISULFITE. M. Leveau, M. Caillet, and N. Demonmerot. Bull. Inst. Textile France No. 84: 17-32 (1959). In French. Through J. Textile Inst. 51: A211 (1960).
The results are given of investigations complementary to those reported in Part 1. These are related to: properties of iodinated wool; effect of oxidizing pretreatments on the solubility of wool in urea-bisulfite; action of heat and alkalis on iodinated wool; action of heat on the solubility in urea-bisulfite of wool pretreated with alkali; action of iodine on wool oxidized with peracetic acid; behavior in urea-bisulfite of the iodinated ortho- and para-cortex; and effect of iodination on the solubility of mohair and of human hair. The results are discussed, with particular reference to the part played by the tyrosine bonds. (2073)

WOOL GREASE FROM THE COMMERCIAL SOLVENT DEGREASING OF RAW WOOL. G. F. Wood (C.S.I.R.O.). J. Am. Oil Chemists Soc. 38: 216-218 (Apr. 1961).
Some differences between wool grease obtained by the solvent extraction of raw wool and wool grease recovered centrifugally from emulsion scour liquors are described. Refining problems arising from the peculiar properties of solvent wool grease are outlined, and some suitable refining methods are suggested. 6 refs. (2074)

PROPERTIES OF CHEMICALLY MODIFIED WOOL, AND THE POSSIBILITIES OF PRACTICAL APPLICATION. G. Nitschke. Deut. Textiltech. 10: 75-80, 153-156 (1960). In German. Through J. Textile Inst. 51: A365 (1960).
The literature is surveyed that deals with the chemical modification of wool to enhance its serviceability and to impart easy-care properties. The qualitative and, in some cases, quantitative, effects are tabulated of acetylation, formalization, chroming, chlorinating, and treatment with quinone and bifunctional agents such as 1-fluoro-2:4-dinitrobenzene, with thioglycollate and other disulfide-bond-breaking agents, and with polymers. (2075)

CHEMICAL MODIFICATION OF WOOL WITH TRICHLORACRYLOYLDIAZOMETHANE AND 1,4-DICHLORO-2-BUTINE. A. Kling. Melliand Textilber. 41: 220-226, 457-462, 729-732 (1960). In German. Through J. Textile Inst. 51: A429 (1960).
Trichloracryloyldiazomethane is a monofunctional agent and the effect it has in increasing fiber strength is ascribed to the steric effect of its bulky molecule attached to the polypeptide chain. Polar forces or hydrogen bonds may have an additional effect. Dichlorobutine was examined because its triple bond may be assumed to prevent its two reactive groups from linking sites on the same polypeptide chain. The effect on mechanical and chemical resistance of treated fibers appears to support the view that interchain linking has occurred. The treatments were found to reduce the damage done to wool by Bacillus mesentericus, but not to the same extent as does chroming. (2076)

Dyeing and printing D2

DEVELOPMENTS IN DYES AND DYEING: 1960-61. R. W. Henley (Samuel Courtauld & Co. Ltd). Dyer 125: 349-353 (Mar. 10, 1961).
40 refs. (2077)

SHADE CONTROL FOR MILITARY TEXTILES USED BY THE U.S. ARMY QUARTERMASTER CORPS. F. J. Rizzo (U.S. Quartermaster Research & Eng. Command). Am. Dyestuff Reptr. 50: P211-P220 (Mar. 20, 1961).
The various steps taken by the Quartermaster Corps in the control of shades are explained, and many of the major problems still outstanding are mentioned. 41 refs. (2078)

PROCION FIBER-REACTIVE DYES FOR COTTON AND RAYON KNITTED GOODS. K. A. Lunn (Imp. Chem. Inds. Ltd). Dyer 125: 341-342 (Mar. 10, 1961).
The Procion dyes are compared with the conventional types of dyes normally used in dyeing cotton and viscose, and typical formulations and procedures for the application of cold-dyeing Procions to cotton knitting yarns and knitwear are described. (2079)

CHANGES IN THE DYEING BEHAVIOR OF TEXTILE FIBERS. P. Frieser. Spinner u. Weber 79, No. 1: 14-17, 20-23 (1961). In German. Through BCIRA 41: 826 (1961).
Processes and treatments imparting to cotton, wool, and polyamide fabrics affinity for some dyes and resist properties for others are reviewed, and dyeing of blends of wool with cellulosic, polyamide, polyacrylonitrile and polyester fibers, polyester with polyacrylonitrile, and cellulose acetate with other cellulosic and protein fibers by reserving one of the blend components is discussed. 37 refs. (2080)

PROBLEMS ASSOCIATED WITH THE BEHAVIOR OF ORGANIC DYES ON FIBERS EXPOSED TO LIGHT AND WEATHER. C. Calin and I. Bazavan. Industria Textila 11, No. 10: 408-414 (1960). In Rumanian. Through BCIRA 41: 228 (1961).
It is shown that, in the case of cellulose fabrics and carbonized wool, identical dyeings are obtained by either coppering the dye oxidatively on the fiber or aftertreating the dyeing with copper sulfate and exposing it to sunlight. Reflectance curves are given. Weathering tests were carried out and an attempt was made to find a reference indicator, by means of which the weatherfastness of dyeings could be evaluated. (2081)

HOW TO CROSS-DYE WITH ACRILAN 16. Chemstrand Corp. Skinner's Silk & Rayon Record 35: 237-238 (Mar. 1961).
Although the basic physical properties of Acrilan 16 are similar to those of Acrilan, it possesses dyeing characteristics markedly different from Acrilan, and attractive results can be obtained by cross-dyeing blends of the two fibers by the one-bath process described. (2082)

DYEING BEHAVIOR OF POLYACRYLONITRILE FIBERS, WITH SPECIAL REFERENCE TO THE NEW DRALON. W. Hees. Melliand Textilber. 42, No. 1: 87-88 (1960). In German. Through BCIRA 41: 832 (1961).
Various commercial acrylonitrile fibers are reviewed, with special reference to their dyeing with cationic dyes, and the dyeing properties of the new Dralon fiber (Farbenfabriken Bayer AG) and its mixtures with cellulosic fibers and wool. (2083)

CONTINUOUS DYEING OF PE CE/DEDERON FABRICS. D. Scharch. Deut. Textiltech. 10, No. 12: 650-652 (1960). In German. Through BCIRA 41: 833 (1961).
A continuous pad-dyeing method is described, which makes it possible to obtain multicolored effects on fabrics consisting of polyvinyl chloride fibers in the warp and polyamide fiiaments in the weft, whereby the raw or predyed polyamide filament is reserved during pad-dyeing of the fabric. A possibility for the thermal stiffening of such fabrics is pointed out. (2084)

BATCH DYEING OF TERYLENE/CELLULOSE UNION FABRICS. Imp. Chem. Inds. Ltd. Textile Weekly 61 (1): 608-613 (Mar. 17, 1961). (2085)

SINGLE-BATH DYEING PROCESS FOR WOOL/CELLULOSIC FIBER BLENDS. H. Renziehausen. Textil-Praxis 15: 736-738 (1960). In German. Through J. Textile Inst. 51: A512 (1960).
The author discusses the dyeing of wool/cellulosic unions at pH 4-5 in the presence of auxiliary products such as Mesitol W L (Bayer) or Albatex H W (Ciba). Lists of suitable dyes are included. The presence of the auxiliary product reduces the staining of the wool by the cellulosic dyes under the acid conditions. (2086)

POTENTIAL APPLICATIONS OF EXTRA-FINE POWDER BRANDS OF PERNITHRENE DYES IN PIECE DYEING. J. Pelle. Tex 19, No. 9: 566-569 (1960). In Dutch. Through BCIRA 41: 828 (1961).
The dyes are first applied in highly-dispersed form having no affinity for the fibers and are then reduced with sodium hydroxide and sodium hydrosulfite, whereby the dye is able to diffuse into the fiber and is fixed in it. As with vat dyes, the fabric is finally rinsed, oxidized, soaped, etc. The two methods described for pigment impregnation are examples of the technique and its advantages. (2087)

COVERING OF IMMATURE COTTON DURING DYEING WITH NAPHTHOL AS DYES. H. P. Maier. Melliand Textilber. 41, No. 11: 1384-1389 (1960). In German. Through BCIRA 41: 445 (1961).
In this review, the author discusses evaluation of the covering power of dyeings to conceal neps in cotton fabrics, visibility of neps as a function of naphthol concentration, effect of desizing agents on the visibility of neps in cotton fabric, effect of bleaching on the covering power, nep visibility in dependence of sodium hydroxide concentration, and experiments on the degradation of the proteinaceous substances in the neps and their conversion into water-soluble substances. A table is given to show the covering power of a series of dyes. 12 refs. (2088)

CONTINUOUS DYEING OF SYNTHETIC FIBERS AND BLENDS. J. Khachoyan. Dyer 125: 478 (Mar. 24, 1961). (2089)

DYEING AND PRINTING POLYESTER AND POLYESTER-CELLULOSIC FABRICS WITH POLYESTREN DYES. H. Musshoff (Cassella Farbwerke Mainkur AG). J. Soc. Dyers Colourists 77: 89-96 (Mar. 1961).
Polyester and polyester-cellulosic fabrics can be dyed and printed with a range of vat dyes specially selected and processed for the purpose. The application and properties of these Polyestren dyes are discussed, and compared with those of other dyes suitable for dyeing these fabrics. 4 refs. (2090)

DYEING OF VINYLON WITH SOLACET DYES. PART 1. RELATION BETWEEN THE AFFINITY AND SALT CONCENTRATION IN THE DYEBATH. PART 2. HEAT AND ENTROPY OF DYEING. A. Katayama, N. Kuroki, and K. Konishi. J. Soc. Textile Cellulose Inds. Japan 16, No. 12: 1041-1049 (1960). In Japanese (English summary). Through BCIRA 41: 451 (1961). (2091)

INVESTIGATIONS INTO THE CONTINUOUS DYEING OF WOOL. B. Milligan (CSIRO Wool Research Labs.). (Letter to the editor). J. Soc. Dyers Colourists 77: 106-112 (Mar. 1961).
A method of dyeing wool at room temperature has been studied, and adapted to the continuous dyeing of slubbing. Formic acid is used as the dye solvent. The method causes negligible fiber damage, and dye penetration and fastness of the dyeings are satisfactory. However, most dyes give skittery dyeings under the conditions used, and satisfactory fixation is obtained only in pale to medium shades. Methods of recovery of the dye solvent are described, and the cost of dyeing is estimated. 10 refs. (2092)

COMMERCIAL FEASIBILITY OF LAC DYE USE. Silk Rayon Inds. India 4: 6-7 (Jan. 1961).
Results of experiments on the use of lac dyes for dyeing viscose and wool yarns are briefly reported. (2093)

ETHYLENE OXIDE CONDENSATION PRODUCTS AS LEVELING AGENTS IN WOOL DYEING. Melliand 42, No. 1: 22, 24 (1961).
The reactions and characteristics of the various commercially available leveling agents based on ethylene oxide condensates are described. (2094)

VAT DYEING TODAY. PART 2. O. W. Clark (Am. Cyanamid Co.). Textile World 111: 114-118 (Apr. 1961).
Procedures for vat dyeing stock and top of cotton, rayon, wool, and silk are described. (2095)

NEW OBSERVATIONS ON THE TIPPY DYEING OF WOOL. H. R. Hadfield and D. R. Lemin (Imp. Chem. Inds. Ltd). J. Soc. Dyers Colourists 77: 97-106 (Mar. 1961).
New information on the relation between dye constitution and behavior in dyeing skittery wools is provided. It is shown that the production of skittery dyeings depends upon (1) the hydrophilic/hydrophobic properties of the wool surface, and (2) the hydrophilic/hydrophobic balance of the dye. Information on the hydrophilic nature of the wool surface was obtained by contact angle measurements and on the hydrophobic properties of the dye by measurements of partition between water and butyl alcohol saturated with water. 29 refs. (2096)

DYEING WOOL IN THE PRESENCE OF ORGANIC SOLVENTS. U. Einsele. SVF Fachorgan Textilveredlung 15: 206-212 (1960). In German. Through J. Textile Inst. 51: A314 (1960).
Experiments designed to test the various theories of the mechanism of low-temperature solvent-assisted dyeing of wool showed that, while the cyanuro-chloride reactive dyes, being insoluble in the organic solvent (butanol) used, did not give satisfactory dyeings at low temperatures, the addition of Neovadine AN to the dyebath brought about good results. In the presence of Neovadine AN the butanol could be replaced by higher alcohols, acrylonitrile or epichlorhydrin, and satisfactory dyeing was effected. The theory that the dye forms with the Neovadine AN a complex addition product that is soluble in the organic solvent was confirmed. Neovadine AN could be replaced by any compound that forms such a solvent-soluble complex with the dye concerned. (2097)

DYEING ON HIGH TEMPERATURE INSTALLATIONS. J. Barak. Textil 15, No. 12: 464-466 (1960). In Czech. Through BCIRA 41: 824 (1961).
High temperature dyeing of manmade, wool, and cellulose fibers is discussed, and dyeing installations and laboratory dyeing equipment are reviewed, with special reference to the YVXC-12250 apparatus, constructed in Czechoslovakia. (2098)

TKS-11-Z JET SYSTEM HANK DYEING MACHINE. Toyo Kakoki Ltd. J. Textile Machy. Soc. Japan 6: 75-76 (Dec. 1960). (2099)

HIGH-PRESSURE DYE JIGGER. Kyoto Machy. Co. Ltd. J. Textile Machy. Soc. Japan 6: 74-75 (Dec. 1960). (2100)

APPLICATION OF CIBACRON DYES BY PAD-ROLL PROCESS. J. Renggli and P. Ulrich. Melliand Textilber. 41, No. 12: 1537-1540 (1960). In German. Through BCIRA 41: 652 (1961).
The method (Rydboholm system) is described. The dyeings with Cibacron dyes exhibit excellent levelness and dye penetration. The applicabilities of the individual dyes on the Svetema pad-roll installation are listed in a table. (2101)

REACTON DYES IN DYEING AND PRINTING. H. Schuhmacher. Melliand Textilber. 41, No. 12: 1548-1554 (1960). In German. Through BCIRA 41: 653 (1961).
Methods for the application of a new group of reactive dyes (Reacton dyes produced by Geigy AG) in dyeing and printing of cellulosic fibers are discussed. The dyes exhibit excellent stability in alkaline padding solutions and printing pastes, good to very good lightfastness, and very good wetfastness. The hydrolyzed dye is easily removed by washing. (2102)

ADSORPTION OF DYE MIXTURES BY CELLOPHANE SHEET. PART 2. QUANTITATIVE DISCUSSION OF THE ADSORPTION OF DYES. Y. Horiki. Bull. Chem. Soc. Japan 33: 974-979 (1960). Through Chem. Abstr. 55, No. 1: 997a (1960).
Dyeings with Chlorazol Sky Blue FF and Chrysophenine G and their mixtures were examined. (2103)

AFFINITY FOR CELLULOSE OF POLYENE DICARBOXYLIC ACIDS OF THE CROCETINE TYPE AND OF QUATERNARY AMMONIUM COMPOUNDS. R. Wirz and H. Zollinger. Helv. Chim. Acta 43, No. 6: 1738-1745 (1960). In German. Through BCIRA 41: 650 (1961).
Eight α-ω-polyene-dicarboxylic acids (of the natural-dye type bixine and crocetine) were synthesized to ascertain the nature of the binding forces between cellulose and dye. The affinity of these compounds for cotton is a function of the number of conjugated double bonds. Study of the adsorption of quaternized benzidine and m-tolidine salts showed that compounds not able to form hydrogen bonds exhibit affinity for cellulose. The substantivity of all these compounds is mainly or exclusively due to Van der Waals forces. (2104)

INVESTIGATIONS INTO THE DYEING MECHANISM OF ACID DYES ON VARIOUS POLYAMIDE FIBERS. H. Zollinger and others. Melliand Textilber. 42, No. 1: 73-80 (1961). In German. Through BCIRA 41: 830 (1961).
The end-group constitution of polyamides and the relationships between dyeing mechanism and dye and polyamide constitution on the one hand, and between fiber and dye constitution and the absorption rate on the other, are discussed, and it is concluded that there is a direct relationship between dye constitution, association tendency of the dye, and its absorbability by polyamides, a salt binding mechanism overlapping a solvation mechanism. 30 refs. (2105)

ACTION OF REACTIVE DYES CONTAINING VINYLSULFONIC GROUPS WITH WOOL. F. Osterloh. Textil-Praxis 15: 734 (1960). In German. Through J. Textile Inst. 51: A512 (1960).
In alkaline and neutral media, a strong bond is formed between the vinylsulfonic group of Remalan dyes and the basic groups of wool; in acid medium below pH 5, the dyes act as conventional acid dyes. Chemically modified wools absorb the dyes differently. A table is given showing the effects of different chemical treatments on the uptake of the reactive dyes. Chromatographic studies suggest that, in addition to amino groups, the phenolic hydroxy group in tyrosine may take part in the reaction. (2106)

DEVELOPMENT OF A DYESTUFF FROM ITS SYNTHESIS TO ITS MARKETING. K. G. Roessler (Consolidated Dyestuffs & Chem. Ltd). Can. Textile J. 78: 45-49 (Mar. 17, 1961).
The author discusses the initial research work, the best procedures for obtaining good physical dyeing and fastness properties, and methods of final screening to be certain the product is marketable. 7 refs. (2107)

ROLLER PRINTING IN TEXTILE FINISHING PLANTS. P. Bader. Tekstil 9, No. 11: 851-859 (1960). In Serbocroat. Through BCIRA 41: 458 (1961).
The aspects of increasing the production of printed textiles in Yugoslavia are discussed, with reference to the investments necessary, types of printing machines, the technological process, and the skilled-labor requirements. (2108)

GUIDE TO NEW DYES: 1960-61. Dyer 125: 353-359 (Mar. 10, 1961).
An alphabetical list of some new dyes, with brief notes on their properties as described by the makers, and with special reference to recently introduced ranges. (2109)

LAC DYE: ITS APPLICATION IN DYEING AND PRINTING. PART 1. DYEING OF PROTEIN AND POLYAMIDE FIBERS WITH LAC DYE. E. H. Daruwalla, M. R. Kaulgud, and G. M. Nabar (Univ. Bombay). J. Sci. Ind. Research (India) 20D, No. 1: 22-27 (Jan. 1961).
The use of purified lac dye in the dyeing of wool, silk, and nylon has been investigated, and the effect of pH and temperature of the dyebath and the concentration of the dye and the mordant has been studied in detail. Dyeings with different shades and of satisfactory fastness can be produced employing suitable mordants. Procedures have been suggested for obtaining crimson, purple, orange-red, and brown dyeings. 5 refs. (2110)

REACTION MECHANISM OF PROCINYL DYES. E. Elöd and U. Einsele. Melliand Textilber. 41, No. 11: 1377-1384 (1960). In German. Through BCIRA 41: 450 (1961).
Chromatographic methods and diffusion experiments showed that a chemical reaction takes place between the Procinyl dyes and amino group-containing fibers. Reduction of the number of amino groups by deamination or acetylation causes a decrease in dye absorption, whereas an increase in the amino groups (by acid degradation) results in increased dye-fixing ability. The reaction between acid amide groups and Procinyl dyes was examined. The ratio between the diffused and reacted dye was found to be different in the individual substrates; the best value is obtained for wool, followed by silk, Perlon, urea resin, and polyurethane. (2111)

HOW REACTIVE DYES WORK. T. Vickerstaff. Silk Rayon Inds. India 4: 11-16 (Jan. 1961).
The mechanism of action of the Procion dyes and the relation of the kinetic behavior of the dyes to practical dyeing are discussed. (2112)

DYEING WITH REMAZOL VINYL-SULFONE REACTIVE DYES. H. Luttringhaus (Carbic-Hoechst Corp.). Am. Dyestuff Reptr. 50: P248-P253 (Apr. 3, 1961).
The mechanism of Remazol dye reactivity is explained, and methods and results are discussed. Based on practical experience, samples of actual mill runs are described, and practical suggestions made for the dyer of cotton and rayon packages. The practicability of the dyeing from a long liquor ratio is discussed, and it is shown which dyes are suitable for this particular process. In addition, practical results from mill runs are shown on manmade fibers. 6 refs. (2113)

REMAZOL DYEING METHODS AND THEIR CRITICAL EXAMINATION. E. Ungermann. Melliand Textilber. 42, No. 1: 89-96 (1960). In German. Through BCIRA 41: 827 (1961).
Exhaustion methods and pad-dyeing methods with and without intermediate drying are reviewed. (2114)

AUTOMATIC SCREEN PRINTING MACHINE. Comerio Ercole SpA. Textile Recorder 78: 86 (Mar. 1961).
Features of the SQTP machine include a two speed belt drive, a particularly accurate pasting device, and individual control over the squeegees. (2115)

DETERMINED DYEMAKERS MOVE ON A MARKET. Chem. Week 88: 53, 54, 56 (Mar. 25, 1961).
The market situation in the U.S. with respect to the reactive dyes is reviewed. Information on the patent situation, end-use and technical problems, and the various types of reactive dyes available is included. (2116)

Mechanical processes D3

LANA RAISING MACHINE. R. Weber. Melliand 42, No. 1: 30, 32 (1961).
Features and operation of the Lana machine (Franz Liedl) are noted. (2117)

PBM HIGH PILE IRONING MACHINE. Textile Recorder 78: 78 (Apr. 1961).
The machine described is designed for producing a high luster finish on woven and knit fabrics. (2118)

Drying, setting, conditioning D4

TECHNICAL PRINCIPLES AND USE OF MEASURING AND CONTROL DEVICES. PART 5. A. DeGroot. Rev. Textilis 19, No. 9: 570-572 (1960). In Dutch. Through BCIRA 41: 852 (1961).
Temperature control of drying cylinders is discussed. (2119)

DRYING, DRYING PROBLEMS, AND DRYING INSTALLATIONS. Fleissner GmbH and others. SVF Fachorgan Textilveredlung 15, No. 10: 610-708; No. 11: 714-815 (1960). In German. Through BCIRA 41: 474 (1961).
In these two special numbers, various manufacturers of drying installations report on their most recent development trends and constructions. In addition to general problems, water extracting, drying and condensing equipment, auxiliary devices for tenters, moisture-measuring apparatus, etc. are reviewed, and the problems of dye migration during drying operations is discussed in several papers. (2120)

SETTING NYLON FABRICS BY RADIANT HEAT. L. S. Laskowski. Nylon Outlook No. 10: 28-35 (Spring 1961).
The advantages of setting by radiant heat over steam, hot rolling or calendering, and hot air are cited, and results of experiments on the effects of fabric tension, moisture content, tenter temperature, and fabric weight on fabric stability and the effect of setting on fabric properties are described. The economic aspects of the process are also noted. (2121)

CONTROL OF THE EXHAUST AIR HUMIDITY IN DRYERS FOR TEXTILE MATERIALS. PART 2. R. Burgholz. Textil-Praxis 15, No. 12: 1271-1279 (1960). In German. Through BCIRA 41: 851 (1961).
In continuation of the previous article (abstr. 1582/61), the author discusses the measurement of exhaust-air humidity, with special reference to hair hygrometers, psychrometers, lithium chloride humidity meters, and synthetic-foil humidity meters. Control devices for exhaust-air humidity and their mechanism are described, and effects of the control are enumerated. (2122)

PERFORATED DRUM DRYING SYSTEM FOR YARN HANKS. Fleissner Ltd. Textile Recorder 78: 75 (Apr. 1961). (2123)

EFFECT OF WOOL POROSITY ON SCOURING AND DRYING PROCESSES. PART 13. FUNDAMENTAL STUDIES ON THE DRYING MECHANISM. H. Sanuki. J. Textile Machy. Soc. Japan 13, No. 12: 862-871 (1960). In Japanese (English summary). Through BCIRA 41: 476 (1961).
The drying mechanism of a jet dryer has been studied, and the effect of porosity on drying efficiency examined. (2124)

EXPERIENCES WITH SOVIET AUTOMATIC GAS DRYING MACHINES. J. Zapaldo. Textil 15, No. 9: 325-326 (1960). In Czech. Through BCIRA 41: 850 (1961).
Technical and economical advantages of the machines, whose construction is claimed to be on the same level as that of machines produced in other countries, are enumerated, and experimental data are tabulated. (2125)

TESTING AND MEASUREMENT E

TESTING THE WATER RESISTANCE OF TEXTILES BY THE PFERSEE IMMERSION METHOD. H. Neuwirth. Melliand Textilber. 41: 611-613 (1960). In German. Through J. Textile Inst. 51: A369 (1960).
Whereas the spray method based on the Bundesmann shower tester for determining water absorption can be used on woven fabrics only, the immersion method of Chemischen Fabrik Pfersee GmbH can be used with loose fiber, yarn, and felt, as well as with fabric. Yarn, fabric strip, or felt strip is wrapped around a circular array of rods projecting from one face of a flywheel, or loose material is placed in perforated baskets attached to the flywheel. The flywheel is lowered into a tank of water and revolved for 1 min at 60 rpm and then raised out of the water and spun for 2 min at 360 rpm. Although the method gives lower values for water absorption than does the spray method, the scatter of results is less, and ranking of different waterproofing treatments is more accurate. (2126)

ASTM STANDARDS ON TEXTILE MATERIALS (WITH RELATED INFORMATION). Am. Soc. for Testing Materials, 1916 Race St., Philadelphia 3, Pa. 1960. 944 p. $9.75.
The 1960 edition contains 139 standards of which 24 are new, revised, or have had their status recently changed. Among the new standards are: Test for neps in wool top; Test for imperfection count of textile yarns; Method of testing elastic fabrics; and Test for colorfastness to commercial laundering and to domestic washing of tufted rugs and carpets. (2127)

SAMPLING TEXTILE MATERIALS. R. C. Hader (N. C. State Coll.). Textile Bull. 87: 31-34 (Apr. 1961).
The general purposes and basic principles of sampling are reviewed. A number of formulas for special cases are presented, primarily to illustrate the general principles. (2128)

INSTRON TENSILE TESTER. B. Roberts. Nylon Outlook No. 10: 36-40 (Spring 1961).
The versatility of the Instron tester for investigating the stress-strain properties of fibers, yarns, and fabrics is described and illustrated. (2129)

TEXTILE APPLICATIONS OF NON-PARAMETRIC STATISTICS. A. Barella. Rev. Textile 59, No. 1: 20-23; No. 2: 73-81; No. 4: 198-205 (1960). In French. Through BCIRA 41: 967 (1961). (2130)

EFFECT OF SOAKING TIME ON THE RECOVERY PROPERTIES OF YARNS AND A FABRIC OF SECONDARY CELLULOSE ACETATE IMMERSED IN WATER AT 20° C. J. C. Guthrie and S. Norman (Courtaulds Ltd). (Letter to the editor). J. Textile Inst. 52: T96-T99 (Feb. 1961).
The recorded yarn elastic recovery and fabric crease-recovery of secondary cellulose acetate in water at 20° C are dependent on the soaking time allowed before the measurement is commended. 7 refs. (2131)

Fibers E1

METHOD FOR THE IDENTIFICATION OF SYNTHETIC FIBERS IN BLENDS. J. Vyskocilova-Janackova. Textil 15, No. 11: 428-430 (1960). In Czech. Through BCIRA 41: 876 (1961).
The modified method described is based on dissolving the fibers and precipitating them again, whereby the manmade fibers are divided, after preliminary test, into seven groups, and each group is analyzed individually. (2132)

FIBER ANALYSES. O. Holzinger, W. Linke, and F. Ritter. Spinner u. Weber 79, No. 1: 18-19 (1961). In German. Through BCIRA 41: 877 (1961).
Identification of individual fibers in blends with wool by solvent separation, microscopical examination, and specific reactions is described. (2133)

FIBROGRAM: ITS CONCEPT AND USE IN MEASURING COTTON FIBER LENGTH. C. B. Landstreet. Textile Bull. 87: 54-57, 74 (Apr. 1961).
This paper describes simply the basic ideas involved in the fibrogram. A method for plotting the fibrogram from array data, and an interpretation of the curve is discussed. (2134)

TESTS ON THE HUNGARIAN AUTOMATIC STAPLE LENGTH METER. J. Krejci. Textil 15, No. 11: 415-418 (1960). In Czech. Through BCIRA 41: 869 (1961).
The experiments on cotton fibers from various sources are described and the results are presented in graphs and tables. (2135)

COMPLETE DISORIENTATION OF FIBER SPECIMENS FOR DETERMINING DEGREE OF CRYSTALLINITY. L. Bär, F. Rochon, and H. Ruck. Melliand Textilber. 41, No. 12: 1575-1577 (1960). In German. Through BCIRA 41: 685 (1961).
A suitably pretreated fiber sample is embedded either in paraffin or a special wax and cut into individual sections by means of a continuously-operating microtome, the sections being collected in sufficient ligroin to dissolve the paraffin, which is then extracted with ligroin and petroleum ether. On adjusting the microtome to obtain fiber segments whose length and thickness are identical, complete absence of orientation is found even when the specimens are pressed into tablets. The treatment has no measurable effect on the degree of crystallinity of the sample. (2136)

EXAMINATION OF THE COMPRESSIBILITY OF WOOL. P. J. Holzer. Textil-Praxis 15, No. 12: 1232-1234 (1960). In German. Through BCIRA 41: 879 (1961).
After a brief theoretical discussion of elasticity of fibers, the author describes an apparatus and method for measuring the elastic properties of wool. Experimental results obtained for various wool types are tabulated. (2137)

ESTIMATION OF THE INTER-APPARATUS VARIATION IN THE MEASUREMENT OF AIRFLOW. F. Monfort. Ann. Sci. Textiles Belges No. 1: 7-21 (1960). Through J. Textile Inst. 51: A372 (1960).
The variation between types of airflow apparatus was estimated from the results obtained from a test carried out by 17 laboratories. Tolerances are suggested which are applicable to routine airflow tests. These tolerances have no official status. (2138)

DETERMINATION OF THE FLAMMABILITY TEMPERATURE OF VEGETABLE FIBERS. E. Trepka, W. Markiewiczowa, H. Schmidt, and D. Zyzka. Przeglad Wlok. 14, No. 10: 545-549 (1960). In Polish. Through BCIRA 41: 871 (1961).
Both the literature review and the experiments described indicate that it is impossible to determine accurately the flammability temperature of vegetable fibers. Characteristic is the considerable scattering of the results obtained in the individual investigations carried out by the same method. Of essential importance is the fact that a spark falling on to fibers heated to moderately high temperatures (flax 160°, cotton 210° C) may cause a fire. (2139)

INVESTIGATION ON INTERFIBER FRICTION IN FIBER SYSTEMS. PART 4. FRICTIONAL PROPERTIES OF WITHDRAWAL FORCE FOR A SINGLE FIBER IN A BUNDLE. S. Kinoshita and T. Takizawa. J. Soc. Textile Cellulose Inds. Japan 16, No. 11: 935-939 (1960). In Japanese (English summary). Through BCIRA 41: 113 (1961).
Tests were made (torsion balance method) on fiber bundles (1-2 cm long) of cotton and viscose rayon staple (crimped, regular, and direct roller cut). The bundles were wrapped in cellophane tubes of different diameter. The results are discussed. (2140)

FRICTOLON FIBER FRICTIONAL COEFFICIENT TESTER. Toyo Measuring Instruments Co. Ltd. J. Textile Machy. Soc. Japan 6: 77 (Dec. 1960). (2141)

METHODS FOR DETERMINING THE CHANGES IN THE INTERNAL STRUCTURE OF SYNTHETIC FIBERS. H. Hendrix. Z. ges. Textil-Ind. 62, No. 21: 921-924 (1960). In German. Through BCIRA 41: 116 (1961).
Some methods are described, which make it possible to measure shrinkage, determine moisture regain and water retention ability, stress-elongation diagrams, dye uptake, and mean molecular weight, and to carry out microscopical examinations. These methods can be used to study the structural state of fibers at each processing stage and to ascertain structural changes of a positive or negative nature throughout the whole treatment. The methods can be supplemented, if necessary, e.g. by determining the swelling and dissolution behavior. (2142)

X-RAY DETERMINATION OF THE ORIENTATION AXIS OF CRYSTALLITES IN POLYCAPROLACTAM FIBERS (NYLON 6, PERLON L). G. W. Urbańczyk. Przeglad Wlok. 14, No. 9: 456-458 (1960). In Polish. Through BCIRA 41: 258 (1961).
The method proposed is based on determining the orientation axis of crystallites from the rectangular x-ray diagrams according to Polanyi. For this purpose, a special relationship was derived for the mean orientation angle of the crystallite axis. The results are in good agreement with those obtained by using the slanting-angle x-ray diagrams, the practical application of which is associated with considerable difficulties. (2143)

FIBER-LENGTH DISTRIBUTION IN COMBED WOOLS. W. Wegener and W. Rosemann. Melliand Textilber. 40: 1257-1262 (1959). In German. Through J. Textile Inst. 51: A424 (1960).
The fiber-length distribution in two samples of long staple wool is demonstrated with the aid of three examples of the Gaussian distribution law. (2144)

FIBER-LENGTH DISTRIBUTION OF COMBED LONG-FIBER WOOL. W. Wegener and W. Rosemann. Melliand Textilber. 41: 668-674 (1960). In German. Through J. Textile Inst. 51: A424 (1960).
The fiber-length distribution of six samples of wool has been found to be represented by two overlapping Gaussian distributions of which the constants were calculated by the method of least squares. The results of the numerical calculation are compared with the values previously found by graphical methods. (2145)

INDICATION OF DAMAGE TO WOOL BY STRENGTH TESTS ON SINGLE FIBERS. G. Satlow. Textil-Praxis 14: 1087-1093 (1959). In German. Through J. Textile Inst. 51: A211 (1960).
The instruments and techniques for determining wet and dry strengths of single fibers, and methods for evaluating the results to indicate fiber damage, are described. For acid-damaged wool, a promising method seems to be the determination of the strength, as a percentage of the dry strength, of fibers extended in a solution at pH 12. (2146)

RECENT DEVELOPMENTS IN TEST METHODS FOR WOOL. W. Von Bergen. Materials Research & Standards 1: 175-181 (Mar. 1961).
In this review of the newest physical and chemical tests used in research and in testing wool fibers, the following are discussed: electronic method for moisture determination; air-flow method for fineness; electronic method for number and size of fibers; new approach to a speedier electronic fiber length method; method of predicting differential dyeing behavior; method for determining alkali damage; method for determining the nature of the cortex in animal fibers; need for improved method to measure viscoelastic properties; specification and test methods for cashmere and other specialty hair fibers; and need of a better method for determining felting properties. 19 refs. (2147)

VIRGIN WOOL, SKIN WOOL, AND REMANUFACTURED WOOL: COMPARISON OF THEIR CHEMICAL AND PHYSICAL PROPERTIES. G. Satlow. Z. ges. Textil-Ind. 61: 672-679, 776-782 (1959). Through J. Textile Inst. 51: A521 (1960).
In Part 1, fleece wool and skin wool are compared. Part 2 deals with virgin wool and remanufactured wool. Microscopic and chemical tests were made on remanufactured wool and on woolen yarns that consisted of virgin wool, of mixtures of virgin wool and remanufactured wool, and of mixtures of virgin wool and noils. The chemical tests were for cystine content, and for solubility of alkali, trypsin, acid and urea-bisulfite. The presence of short fibers was also investigated. The results show that these tests do not differentiate between virgin and remanufactured wool. (2148)

HANDMADE WOOL-TOP FIBER FIGURE. N. Primentas. Textile J. Australia 36: 74-76 (Jan. 20, 1961).
The usefulness of the handmade fiber diagram in the mill for determining ratches and drafts to be employed on drawing and spinning is noted. The accuracy of length data obtained by its use is compared with that using the WIRA single fiber tester. The method is described in detail. (2149)

EXTENSIONS OF THE AIRFLOW METHOD. M. Robinet and M. Franck. Ann. Sci. Textiles Belges No. 2: 78-93 (1960). Through J. Textile Inst. 51: A521 (1960).
The accuracy of the airflow method was assessed for skin wool and lamb's wool. The method can be used for top sliver from sweated wool without recalibrating the apparatus. For lamb's wool, whether shorn or sweated, the method gave consistently low results, and possible reasons for this are discussed. (2150)

ALKALI-SOLUBILITY OF WOOL AS A FUNCTION OF ITS FINENESS. G. Wibaux, G. Mazingue, and M. Van Overbeke. Bull. Inst. Textile France No. 87: 61-64 (1960). In French. Through J. Textile Inst. 51: A473 (1960).
The alkali-solubility was determined of 31 backwashed tops of fineness ranging from 18 to 35 μ. The fineness was measured by the I. W. T. O. airflow method, and the alkali-solubility by the I. W. T. O. draft standard method. The results showed that the alkali-solubility decreased with increase of fiber diameter. Definite conclusions can be drawn from the alkali-solubility test only if it can be applied to wool before and after a treatment of known severity. (2151)

CORRECTION OF THE LOSS OF WEIGHT OF WOOL ON DRYING IN THE DETERMINATION OF THE TRADE WEIGHT. C. Sustmann. Melliand Textilber. 41: 270-276 (1960). In German. Through J. Textile Inst. 51: A266 (1960).
If the humidity of the air used for drying wool in the gravimetric determination of moisture content is not kept within very close tolerances, the results can be expected to vary considerably. More accurate results can be obtained by the use of correction factors, in which case the costly preconditioning of the drying air can be dispensed with. For pure wool samples, the factors previously published by Roberts (see abstr. 237/60) and by Mendrzyk are in good agreement for a drying temperature of 105° C; Mendrzyk also gave results for 50/50 blends with viscose rayon and acetate fibers. (2152)

STATISTICALLY RELIABLE DIFFERENCES IN COMPARATIVE INVESTIGATIONS ON WOOL. G. Satlow. Z. ges. Textil-Ind. 61: 149-152 (1959). In German. Through J. Textile Inst. 51: A210 (1960).
Details are given of the application of statistical methods to the interpretation of the results of chemical and physical tests on wool. The chemical tests examined are alkali-solubility, acid-solubility, urea-bisulfite-solubility, dye absorption, and cystine content; the physical tests examined are diameter, breaking load, breaking strength, and elongation at break. (2153)

Yarns E2

METHOD FOR TESTING THE WATER-REPELLENCY ON YARNS. H. Modlich. Melliand Textilber. 41, No. 11: 1418-1421 (1960). In German. Through BCIRA 41: 515 (1961).
In the method described, a number of threads lying close to each other is deposited freely on a sample holder and sprayed with water, the time from the commencement of spraying until the occurrence of a certain change in length caused by the penetration of water being measured by a metal slide, projecting from under the thread bundle and overturning when the change in length has reached a certain value. The longer the time, the better is the water-repellent effect. Results of measurements on yarn intended for umbrella materials are tabulated. (2154)

VARIATION LIMITS IN THE QUANTITATIVE COMPOSITION OF FIBER BLENDS IN YARN CROSS-SECTIONS. T. Karlowicz and W. Zurek. Przeglad Wlok. 14, No. 9: 459-462 (1960). In Polish. Through BCIRA 41: 262 (1961).
Experiments showed that the number of fibers in individual cross-sections of the yarn, belonging to different blend components, can be regarded as independent random variables subjected to binomial distribution. The number of fiber groups in the yarn cross-section is obtained by dividing the number of fibers in the cross-section by the square of the Huberty coefficient. By assuming with good approximation a normal instead of the binomial distribution, it is possible to determine the limits within which the fiber composition in the individual yarn cross-sections may vary. (2155)

FIBER-LENGTH DISTRIBUTION IN WOOLEN SLUBBINGS. E. Boroczy. Faserforsch. u. Textiltech. 11: 334-342 (1960). In German. Through J. Textile Inst. 51: A523 (1960).
Monfort (J. Textile Inst. 45: P568-P580 (1954)) proposed an exponential function for the fiber-length distribution in woolen slubbings; the present author finds a parabolic function to be in good agreement with actual measurements, even when the distribution is far from ideal. (2156)

THREAD TENSION MEASUREMENTS ON FULLY SYNTHETIC FIBERS. D. Rothschild. Chemiefasern 10, No. 12: 811-813 (1960). In German. Through BCIRA 41: 795 (1961).
Thread tension measurement on spinning, drawing, twisting, winding, and knitting machines is discussed. (2157)

TEX: UNIVERSAL YARN NUMBERING SYSTEM. A. G. Scroggie. Modern Textiles Mag. 42: 61-66 (Apr. 1961).
The advantages of the tex system, its present status, and suggestions for overcoming practical difficulties in its adoption and implementation are discussed. (2158)

YARN TESTING BALANCES (QUADRANT SCALES). German Standards Comm. Textil-Praxis 15, No. 12: 1244-1246 (1960). In German. Through BCIRA 41: 880 (1961).
The draft specification DIN 60 906 refers to the purpose and application range, as well as two types of quadrant scales for weighing yarn over the specified range of tex values and metric counts. The error limit for the two scales described vary within ± 1 and $\pm 0.5\%$ respectively. (2159)

STRESS-ELONGATION PROPERTIES OF YARNS SUBJECTED TO REPEATED SHORT-PERIOD STRESSES. PART 1. W. Wegener. Melliand Textilber. 42, No. 1: 21-27 (1961). In German. Through BCIRA 41: 881 (1961).
The stress-elongation behavior of yarns is determined according to a new principle. Assuming that the force necessary to bring about deformation of the thread increases linearly with the elongation, starting from zero, it is also possible to determine the maximum force and the minimum tension in the thread. The tester permits exposure of the same thread to any number of stresses at constant intervals. The curve recorded on silver bromide paper (by means of a light beam) reproduces the time-dependent elongation of the thread. After each impact of the striking element, the thread is automatically retensioned by a constant tensioning weight (without change in the test length), and the residual elongation is read off after each individual impact. (2160)

AUTOMATION--EVEN IN REGULARITY TESTING. E. Felix. Melliand Textilber. 41, No. 11: 1328-1331 (1960). In German. Through BCIRA 41: 512 (1961).
The development of new regularity-testing and -evaluating devices is discussed, with special reference to the fully-automatic electronic Uster integrator and the imperfection indicator (previously Hy-Lo indicator), which distinguishes between neps and thick places in the yarn. (2161)

HOW TO TEST CRIMPED YARNS. P. Hempel (Forschungsinstitut für Textiltechnologie). Man-Made Textiles 38: 36-40 (Mar. 1961).
After a brief literature review, the author describes a method for determining the degree of crimp on yarn strength testers at the lowest possible preliminary tension, testing the crimp stability (measure of recoverability after tensile deformations) by means of an additional device developed for the yarn strength tester, and calculating the decrimping force by means of a second additional device. Directions are also given for determining breaking strength, twist, and fineness. 14 refs. (2162)

Fabrics E3

CHEMICAL REACTIONS OF THIOGLYCOLLIC ACID IN THE SI-RO-SET PROCESS. T. Gerthsen and H. Zahn. Melliand Textilber. 41: 757-763 (1960). In German. Through J. Textile Inst. 51: A426 (1960).
This is a full account of work reported briefly earlier (abstr. 636/60) on the detection of the Si-Ro-Set treatment in wool fabrics. (2163)

SIMPLE OPTICAL INSTRUMENT FOR THE MEASUREMENT OF COURSES OR PICKS PER INCH IN A MOVING FABRIC. D. Wilson (Courtaulds Ltd). J. Textile Inst. 52: P73-P78 (Feb. 1961).
This paper describes an optical instrument which gives a continuous indication of the number of courses or picks per inch on a moving fabric. If this is fitted to the feed-in end of a tenter, the courses or picks per inch may then be controlled to any given figure by alteration of the over-feed control. (2164)

PROBLEM OF TESTING FINISHED FABRICS. P. Vogel. Melliand Textilber. 41, No. 11: 1416-1418 (1960). In German. Through BCIRA 41: 516 (1961).
The usual technological testing methods for finished cotton and regenerated cellulose fabrics are reviewed, with special reference to the DIN specifications for measuring the creasing angle, permanency of finishing effects, strength, abrasion resistance, swelling value, shrinkage, and chlorine retention. (2165)

MEASUREMENT OF THE SHAPE RETENTION ABILITY OF LINING AND PETTICOAT MATERIALS. H. Jörder. Melliand Textilber. 41, No. 12: 1569-1572 (1960). In German. Through BCIRA 41: 701 (1961).
The most important methods for determining the shape-retention ability of lining materials are described, and measurements on nonwoven and woven interlinings and petticoat fabrics are discussed. It is suggested that the shape-retention ability should be expressed as resistance to deformation (stiffening ability and stiffening force) and as recovery after deformation (recoverability). (2166)

METHOD FOR TESTING RESISTANCE OF FABRICS TO WATER ABSORPTION (STATIC IMMERSION TEST). J. Textile Inst. 52: P79-P82 (Feb. 1961).
Tentative textile standard no. 66. (2167)

PROBLEMS IN STRAIN MEASUREMENT IN IMPACT TESTS ON TEXTILE MATERIALS. S. Backer and J. G. Krizik (Mass. Inst. Technol.). J. Appl. Polymer Sci. 4: 277-283 (Nov./Dec. 1960).
The limitations of conventional methods of measuring strain are discussed in light of the structural composition of textile fabrics. The difficulties introduced in static and impact testing by stress concentration and strain inhomogeneity are considered. The need for two-point strain measurement in regions of homogeneous strain is emphasized. A low inertia strain-measuring system utilizing magnetic tape is described as applied to tensile tests at jaw speeds of 1 to 100 ft/sec. 3 refs. (2168)

AUTOGRAPH IS-2000 TENSILE STRENGTH TESTER. Shimadzu Seisakusho Ltd. J. Textile Machy. Soc. Japan 6: 76 (Dec. 1960). (2169)

EXAMINATION OF VARIOUS PROPERTIES OF PERMANENTLY FLAMEPROOFED FABRICS. J.-J. Reese. Melliand Textilber. 41, No. 11: 1403-1407; No. 12: 1559-1563 (1960). In German. Through BCIRA 41: 520 (1961).
Various methods for testing the flameproofness and its permanency, waterproof and water repellent effects, resistance to mildew and rotting, air-permeability, dimensional stability, weight increase, colorfastness, etc. of flameproofed fabrics are reviewed and compared. Existing DIN and other specifications are listed in a table. (2170)

CONCEPT OF FABRIC QUALITY. P. Gloria. Riv. Tessile 36, No. 5: 471-474; No. 7: 701-710; No. 8: 805-811; No. 11: 1207-1212; No. 12: 1319-1324 (1960). In Italian. Through BCIRA 41: 882 (1961).
Factors responsible for the quality of a fabric are reviewed, and some types of constructional defects encountered in gray fabrics are listed. Reference is also made to the aesthetic appearance of fabrics, technological characteristics, and methods used for their control. (2171)

FINISHING OF TEXTILES WITH PRESERVING AND IMPREGNATING AGENTS AND TESTS FOR DETERMINING THEIR RESISTANCE TO CELLULOSE-ATTACKING MICROORGANISMS. PART 4. FURTHER SUGGESTIONS OF STANDARDIZED TEST METHODS. W. Hausam. Melliand Textilber. 41, No. 12: 1563-1569 (1960). In German. Through BCIRA 41: 674 (1961).
The method described in DIN 53 931 is suggested modified by replacing the agar by sterilized soil to which 1% oatmeal and 2% malt extract are added. The substrate and/or the fabric to be tested are sprayed with spore suspensions of the fungus and incubated for 14 days. Results obtained for various rotproofing agents are discussed and tabulated. For previous parts see abstrs. 4160/58, 3875/59, and 1597/60. (2172)

DETECTION OF THE ACTIVE SUBSTANCE IN TEXTILES FINISHED WITH ANTIMICROBIAL AGENTS. F. Steinfatt. Melliand Textilber. 41, No. 12: 1573-1574 (1960). In German. Through BCIRA 41: 675 (1961).
Two methods for determining the antimicrobial action of suitably finished textiles (especially manmade fiber) are discussed and evaluated. (2173)

INTERLABORATORY TRIALS OF THE STATIC IMMERSION TEST FOR WATER ABSORPTION OF FABRICS. G. E. Settle. J. Textile Inst. 52: P82-P85 (Feb. 1961). (2174)

TESTING OF TEXTILES. TESTING OF THE WATER REPELLENT PROPERTIES OF FABRICS BY THE SPRAY TEST. German Standards Comm. Melliand Textilber. 41, No. 11: 1429-1430 (1960). In German. Through BCIRA 41: 519 (1961).
The draft specification DIN 53 888 for testing the water repellent properties of fabrics (resistance of fabric to takeup of water during spraying), with a view to evaluating the effectiveness of waterproofing processes, describes the sampling, testing apparatus, control of the apparatus, method of testing, and evaluation of the results. Data to be included in the test report are enumerated and photographs are given to show various degrees of water repellency. (2175)

COMPARATIVE EXPERIMENTS ON VARIOUS LIGHT-EXPOSURE AND WEATHERING TESTERS. W. Bubser. Melliand Textilber. 41, No. 11: 1413-1416 (1960). In German. Through BCIRA 41: 518 (1961).
The characteristics of the Xenotest apparatus, Weather-Ometer, and Brilliant-weathering tester (with artificial light sources) are described, exposure results are summarized, and the effects of temperature and humidity on the changes taking place in the samples during the exposure are discussed. The method of carrying out the weathering tests is outlined. (2176)

EFFECT OF WEATHERING ON THE PROPERTIES OF VARIOUS TEXTILE FIBERS. PART 4. J. Lünenschloss and H. Kurth. Textil-Praxis 15, No. 12: 1283-1289 (1960). In German. Through BCIRA 41: 872 (1961).
In continuation of the previous articles (abstrs. 872/61, 930/61, and 1355/61), the authors discuss artificial weathering of manmade fiber textiles, testing of flameproofed polyamide and polyester cables, and the reproducibility of weathering tests carried out on one apparatus and comparison of two devices. (2177)

Other E4

NEW METHOD FOR THE DETERMINATION OF THE DENSITY OF LIQUIDS AND SOLID BODIES. H. Zukriegel. Melliand 42, No. 1: 44, 46 (1961).
A device based on the Archimedes principle is described. (2178)

PRECISION TECHNIQUE FOR MEASUREMENT OF COATING THICKNESS AND WEIGHT. H. H. Murray and W. D. Johns. Tappi 44: 217-219 (Mar. 1961).
A method for determining precisely the thickness and weight of inorganic coating layers has been developed using an x-ray absorption technique. The mass absorption coefficient is calculated and by substitution in the proper formula, the film thickness is determined. (2179)

FASTNESS OF DYED TEXTILES TO PLEATING PROCESSES. H. R. Hadfield (Imp. Chem. Inds. Ltd). Can. Textile J. 78: 52-62 (Mar. 17, 1961).
The problem of measuring colorfastness to pleating or setting processes is considered under the two distinctly different mechanisms involved: steam treatments and dry heat treatments. The variables affecting fastness in each of the processes are discussed, and the recommended S. D. C. test procedures are described. (2180)

FASTNESS TESTING. Soc. Dyers Colourists Comm. Consumer Protection. (Letter to the editor). J. Soc. Dyers Colourists 77: 112-113 (Mar. 1961).
The work and policy of the S. D. C. in the field of fastness testing are reviewed. (2181)

IMPROVEMENT OF GRAY SCALES FOR EVALUATION OF COLORFASTNESS. REPORT ON THE WORK OF THE GERMAN FASTNESS COMMISSION. F. Gund. Melliand Textilber. 42, No. 1: 85-86 (1961). In German. Through BCIRA 41: 895 (1961).
Revised gray scales for evaluating the colorfastness according to DIN 54 001-2 have been prepared by testing colorimetrically each individual grade and rejecting all grades exceeding the tolerance limits. The scales of the 1951 issue are no longer valid and should be withdrawn from use. (2182)

CONTRIBUTION TO THE COMPARATIVE LIGHTFASTNESS TESTING OF WOOL DYEINGS IN DAYLIGHT, IN THE LIGHTFASTNESS TESTER XENOTEST-W, AND IN FLUORESCENT LIGHT. A. Wylezich and W. Seyfarth. Textil-Praxis 15, No. 12: 1279-1283 (1960). In German. Through BCIRA 41: 894 (1961).
Nine series of exposure tests were carried out. The type of the dyes and materials used, the devices, methods, quantitative compilation of the lightfastness data, and evaluation of the exposure tests are discussed. (2183)

EVALUATION OF ACID WOOL DYE MIGRATION. M. Frey. SVF Fachorgan Textilveredlung 14: 691-693 (1959). In German. Through J. Textile Inst. 51: A49 (1960).
A modified method of evaluating the results of the S. D. C. migration test is claimed to give results that agree more closely with practical experience. In this technique, the half of the dyed sample that is discarded in the S. D. C. test is kept. After the other half has been boiled with an undyed piece of fabric for 1 hr, the two halves of the original dyed sample are compared, and migration values of 5, 4, 3, 2, or 1 are allocated to dyes as the contrasts they give in this way correspond to Grey Scale numbers 1, 2, 3, 4, or 5, respectively. (2184)

DETERMINING THE EXHAUSTION OF WOOL DYES FROM NEUTRAL BATHS. M. Frey. SVF Fachorgan Textilveredlung 14: 694-696 (1959). In German. Through J. Textile Inst. 51: A49 (1960).
Two samples of neutralized woolen yarn are dyed, one in a bath kept at pH 7.0 by means of phosphate buffers, and one in a bath prepared according to one of specified recipes conventionally used for acid dyes. The strengths of the dyeings are compared, and the suitability of the dye concerned for neutral dyeing is indicated by a scale of values. (2185)

MILL MANAGEMENT F

Industrial engineering F1

MATHEMATICS, COMPUTERS, OPERATIONS RESEARCH, AND STATISTICS. R. F. Sweeny and others. Ind. Eng. Chem. 53: 329-336 (Apr. 1961).
An I/EC chemical engineering fundamentals review of the literature of 1960. 233 classified refs. (2186)

HOW TO HIT MILL OFFICE COSTS WHERE THEY BEGIN. E. B. Simpson. Textile World 111: 58-61 (Apr. 1961). (2187)

STANDARD COSTING IN TEXTILE MILL MANAGEMENT. M. C. Dutt. Indian Textile J. 71: 130-133, 129 (Dec. 1960).
The development of and techniques for establishing standards for cost control are summarized. (2188)

MODERN TEXTILE MANAGEMENT. PART 2. N. L. Enrick. Textile Inds. 125: 81-82 (Apr. 1961).
The application of linear programming for determining optimum combination of fabric yardages is described. (2189)

QUALITY CONTROL 1961. Textile World 111: 72-74 (Apr. 1961).
Highlights of papers and discussions presented at Textile Div., Am. Soc. Quality Control meeting. (2190)

SPINNING CONTROL. M. Passemar. Industrie Textile: 883-887 (Dec. 1960). In French. Through BCIRA 41: 767 (1961).
This is a statistical approach to quality control in spinning, with special reference to the picker. (2191)

WASTE CONTROL IN RELATION TO QUALITY CONTROL. W. Ray (Southeastern Engrs. Inc.). Textile Bull. 87: 45-46 (Apr. 1961). (2192)

COST REDUCTION THROUGH WASTE CONTROL. J. I. Teat (South-Eastern Engineers Inc.). Textile Weekly 61 (1): 596-597, 628 (Mar. 17, 1961).
Control of the three major types of waste, e.g. saleable, reworkable, and invisible, as a means of reducing unit cost is discussed. (2193)

BIOCHEMICAL OXYGEN DEMAND (B. O. D.) OF STARCH AND STARCH DERIVATIVES. H. Benninga. Tex 20, No. 1: 25-28 (1961). In Dutch. Through BCIRA 41: 902 (1961).
It is shown that the B. O. D. of starch products in textile effluents depends to a great extent upon the degree of chemical modification to which the products were subjected. Etherification reduces the B. O. D. of the starch derivatives. (2194)

HOW TO TREAT TEXTILE WASTES. Wastes Eng. 32: 188-189 (Apr. 1961).
Factors which should be investigated prior to determining whether waste treatment is necessary and to aid in selecting the most suitable type of treatment are discussed. (2195)

Plant and equipment F2

LUBRICATING NIPPLES FOR TEXTILE MACHINERY. German Standards Comm. Melliand Textilber. 41, No. 11: 1337 (1960). In German. Through BCIRA 41: 527 (1961).
The draft specification DIN 63 320 gives illustrations of conical and spherical lubricating nipples. It is recommended that each machine should be provided with only one type of lubricating nipple to facilitate handling. (2196)

UERKHEIM DEELECTRIFYING AND DUST REMOVAL SYSTEM. O. Posch. Dyer 125: 447-448 (Mar. 24, 1961).
In the Uerkheim system, after initial elimination of static electricity, a strong uniform suction is immediately induced across the entire width of the material being processed, and dust, dirt, fly, and fluff is carried along with the air stream produced and deposited into nylon filter sacks. Its applications are enumerated. (2197)

MOTOR PROTECTOR FOR TRAVELING CLEANERS. L. Kowal (Texas Instruments). Textile Inds. 125: 83-84 (Apr. 1961). (2198)

FUNDAMENTALS OF LUBRICATION. H. Naylor (Shell Research Ltd). Textile Weekly 61 (1): 656-661, 674 (Mar. 24, 1961).
The difference between boundary and hydrodynamic lubrication is discussed, and current ideas on boundary lubrication, which is dependent on the chemical properties of lubricants, are summarized. (2199)

LUBRICATION REVIEW. DEVELOPMENTS IN BEARINGS AND LUBRICANTS. A DIGEST OF THE LITERATURE FOR 1959-1960. PART 1. M. B. Peterson. Mech. Eng. 83: 53-69 (Apr. 1961).
This first installment covers friction and wear, boundary lubrication, metalworking lubricants, and automotive lubricants. 264 refs. (2200)

BOILERS AND BOILER EFFICIENCY. Textile Recorder 78: 58-71 (Apr. 1961).
Efficiency in the boiler house, by G. R. Winch, p. 58-60; Modern packaged boilers, by L. S. Brown, p. 62-63, 71; Instrumentation of boiler plant, by R. Clare, p. 64, 68. 71. (2201)

HIGH-TEMPERATURE HEATING SYSTEM FOR DYEING AND FINISHING PLANTS. U. W. Beier. Melliand 42, No. 1: 32, 34 (1961).
The design, advantages, and applications of an indirect high-temperature heating system in conjunction with low-pressure heat carriers are described. (2202)

LIGHT AND ILLUMINATION: CINDERELLAS IN THE TEXTILE INDUSTRY. C. O. Meiners. Melliand Textilber. 41, No. 11: 1352-1353 (1960). In German. Through BCIRA 41: 528 (1961).
It is shown that the spectrum of artificial light used for the illumination of workrooms should correspond to that of daylight. New lamps, constructed on this principle by combining the correct amount of short-, medium, and long-wave light, are discussed. (2203)

PLANNING THE BUILDING OF NEW WEAVING SHEDS. J. Geiger. Textil-Praxis 15, No. 12: 1302-1304 (1960). In German. Through BCIRA 41: 900 (1961).
The problems to be considered when planning the erection of new weaving sheds are briefly reviewed. (2204)

RUBBER ROLL MAINTENANCE. P. J. Mitchell and W. H. Mordo. Tappi 44: 166A-167A (Mar. 1961).
Conditions that affect the life and maintenance of rubber rolls are discussed, and suggestions are given for their proper care. (2205)

SCIENCES G

Chemistry G1

EFFECT OF COTTON SUBSTRATE CHARACTERISTICS UPON SURFACTANT ADSORPTION. M. E. Ginn, F. B. Kinney, and J. C. Harris (Monsanto Chem. Co.). J. Am. Oil Chemists Soc. 38: 138-143 (Mar. 1961).
The reported differences in anionic surfactant adsorption on cotton can be largely attributed to the presence of variable amounts of natural wax on the fiber surface. High adsorption values with peaks near critical micelle concentration result from surfactant adsorption on the wax surface. Wax-free surfaces fail either to show the same high maxima or the same relative magnitude of adsorption. 29 refs. (2206)

CELLULOSE: OLD PARTNER YIELDS NEW PRODUCT. Chem. Week 88: 35-36 (Apr. 22, 1961).
The Rayonier cellulose "grafting" process makes possible the preparation of modified celluloses with low and evenly distributed degrees of substitution, opening up new avenues for tailoring cellulose molecules with special properties. The properties of Ethylose, the low-substituted, alkali-soluble hydroxyethyl cellulose prepared by the process are described. (2207)

DEGRADATIVE ACTION OF HOT DILUTE ALKALIS ON HYDROCELLULOSES. R. L. Colbran and G. F. Davidson (Shirley Inst.). J. Textile Inst. 52: T73-T87 (Feb. 1961).
The main object of the present investigation was to compare various strong and weak alkalis with respect to their degradative action on hydrocelluloses at 100° C, and to examine the effect of alkali concentration. The action of the various alkalis was studied by means of determinations of the loss of weight suffered by the hydrocellulose in the alkali treatment and of measurements of the properties--copper number, carboxyl content, and fluidity in cuprammonium solution--of the alkali-treated materials. 21 refs. (2208)

MODIFICATION OF THE CRYSTALLINE STRUCTURES OF NYLONS 66 AND 6 BY IODINE. T. C. Tranter and R. C. Collins (Brit. Nylon Spinners Ltd). (Letter to the editor). J. Textile Inst. 52: T88-T91 (Feb. 1961).
On the basis of x-ray diffraction patterns, the authors suggest that the halogen interacts with the polymer at its amide groups. 6 refs. (2209)

RATES OF ADSORPTION OF SULFURIC ACID ON WOOL IN PRESENCE OF SURFACE-ACTIVE AGENTS. N. Buchsbaum and A. Datyner. J. Soc. Dyers Colourists 77: 16-22 (Jan. 1961).
The rate of adsorption of sulfuric acid on wool is affected by surfactants. The effect of cationic and nonionic surfactants is small, but some anionic surfactants considerably decrease the rate of adsorption of acid, depending on the concentration and critical micelle concentration of the agent. All agents are themselves adsorbed to various extents. 21 refs. (2210)

COMPARATIVE STUDIES OF FIBROINS. PART 1. AMINO-ACID COMPOSITION OF VARIOUS FIBROINS AND ITS SIGNIFICANCE IN RELATION TO THEIR CRYSTAL STRUCTURE AND TAXONOMY. F. Lucas, J. T. B. Shaw, and S. G. Smith. J. Mol. Biol. 2, No. 6: 339-349 (1960). Through BCIRA 41: 509 (1961).
The amino-acid composition of 74 fibroins from silk-producing arthropods has been determined. There are wide variations, but all are characterized by high proportions of the simple amino acids--glycine, alanine, and serine. Limited correlations between biological classification and amino-acid composition were observed. Some fibroins from unrelated species have similar compositions and crystal structures. (2211)

COMPARATIVE STUDIES OF FIBROINS. PART 2. CRYSTAL STRUCTURE OF VARIOUS FIBROINS. J. O. Warwicker. J. Mol. Biol. 2, No. 6: 350-362 (1960). Through BCIRA 41: 510 (1961).
X-ray examination of the fibers produced by hepidoptera and Araneae has shown that there are at least 5 main types of fibroins (a classification is shown); the differences are attributed to the variation in, and sequence of the amino-acid residues composing the polypeptide chains. Possible structures for the crystalline regions are postulated. (2212)

STABILITY OF THE LANTHIONINE PRODUCED BY THE ACTION OF ALKALI ON WOOL. G. Decroix, G. Mazingue, and M. Van Overbeke. Melliand Textilber. 41: 1010-1013 (1960). In German. Through J. Textile Inst. 51: A561 (1960).
Samples of wool treated with alkali for various lengths of time were analyzed for total sulfur, lanthionine-disulfide-, and thiol-sulfur. From the results it was concluded that two cystine fractions occur in wool, differing in their rate, but not in their mode, of reaction with alkali. The less reactive fraction began to be attacked, under the conditions employed only after 4 hr, and under these conditions the lanthionine produced was continuously broken down into α-amino acrylic acid and hydrogen sulfide. (2213)

SULFUR BALANCE OF WOOL. G. Wibaux, G. Mazingue, and M. van Overbeke. Bull. Inst. Textile France No. 86: 41-53 (1960). In French. Through J. Textile Inst. 51: A378 (1960).
The total sulfur in wool, determined directly, has been found with some samples to exceed that calculated from determinations of sulfur-containing components, and this problem is examined. Total sulfur was determined by three methods: the Parr bomb, the Benedict-Denis as amended by Barritt, and that of Kahane. All three methods gave consistent and similar results. The sulfur content of wool, as calculated from determinations of cystine, cysteine, methionine, lanthionine, and cysteic acid, gives an aggregate value which agrees well with directly-determined sulfur for undamaged wool, but is deficient for wool treated with alkali or carbonized. It is concluded that a complete sulfur balance is found when the cystine linkage is intact, but where the cystine linkage is ruptured, the sulfur balance is deficient. (2214)

AMINO ACID COMPOSITION OF THE ORTHO- AND PARA-CORTEX OF MERINO WOOL. M. Leveau. Bull. Inst. Textile France No. 85: 57-71 (1959). In French. Through J. Textile Inst. 51: A220 (1960).
Wool, after treatment with hydrochloric acid was separated into ortho- and para-cortex fractions. The intact wool, the hydrolyzed wool, and the ortho- and para-cortex were analyzed for amino acids, carbon, hydrogen, sulfur, total nitrogen, and amino-nitrogen. The results are discussed with regard to the effect of the acid hydrolysis on the composition of the wool and the composition and structure of the ortho- and the para-cortex. It is concluded that differences in amino-acid composition by different investigators are related to the methods used for the preparation of the samples. (2215)

RELATION BETWEEN VISCOSITY AND CRITICAL MICELLE CONCENTRATION OF DETERGENT SOLUTIONS. PART 4. VISCOSITY AND DIFFUSION OF IONIC DETERGENT SOLUTIONS. K. Tyuzyo (Osaka Univ.). Kolloid Z. 175: 40-50 (Mar. 1961). (2216)

CHARACTERIZING NYLON 66 BY VISCOSITY MEASUREMENTS IN 90% FORMIC ACID. E. Heim. Faserforsch. u. Textiltech. 11, No. 11: 513-523 (1960). In German. Through BCIRA 41: 606 (1961).
Some of the methods used at present for the characterization of nylon 66 were examined for accuracy by plotting viscosity/concentration curves for 23 fractionated and unfractionated nylon samples. Neither the relative viscosity of a 8.4% solution in 90% formic acid nor the k-value according to Mark and Fikentscher represented suitable values. A new formula is proposed which makes it possible to calculate the limiting viscosity and, consequently, the mean molecular weight from a single viscosity measurement with an accuracy of ± 1.3-1.6%. (2217)

RELATION BETWEEN PERMANENT SET AND COVALENT CROSS-LINKING IN ALKALI TREATED WOOL. P. T. Speakman (Univ. Leeds). Trans. Faraday Soc. 57: 518-523 (Mar. 1961).
Permanent set and supercontraction of keratin fibers in alkali are directly proportional to the square root of the loss of cystine in the alkali treatment. Cystine in keratin is converted to covalent lanthionine cross-links in alkali. 14 refs. (2218)

MISCELLANY H

SWITZERLAND AND THE TEXTILE INDUSTRY. Rev. Textile: 93-134 (June 1960). In French. Through BCIRA 41: 981 (1961).
This special number, devoted to the Swiss textile industry and textile equipment, contains the following articles: The geography of the Swiss textile industry, by A. Gibert, p. 93-94; Glance at the construction of Swiss textile machinery, by E. Honegger, p. 95-113; The Swiss finishing equipment, by J. de Fonseca, p. 115-118; Swiss wool industry, by E. Nef, p. 119-120; Swiss cotton industry, by W. Hauser, p. 121-122; Swiss silk industry, by F. Honegger, p. 123-125; Swiss hosiery industry, by W. Strachelin, p. 127-128; St. Gall embroidery conquered the world, by P. Stein, p. 129-130; Straw-plaiting industry, by A. Zwalben, p. 131-134. (2219)

ECONOMIC EFFECTS OF DISARMAMENT. W. W. Leontief and M. Hoffenberg. Sci. American 204: 47-55 (Apr. 1961).
The technique of input-output analysis is here adapted to facilitate forecasting the effect on sales and jobs of the reallocation of the funds now expended for military purposes. Data on apparel and textile-mill products are included. (2220)

FUTURE OF THE EUROPEAN TEXTILE INDUSTRY. R. Delerive. Rayonne et Fibres Synthet. No. 12: 1289-1304 (1960). In French. Through BCIRA 41: 730 (1961).
Statistical data are given for the per-caput consumption of textiles in various countries, the main fibers used, the wages paid, the existing equipment, imports and exports of raw materials, and finished products. The common market, external abnormal competitions, and the prospects of the textile industry are also discussed. (2221)

INVESTMENT BEHAVIOR IN THE JAPANESE COTTON SPINNING INDUSTRY, 1916-1934. H. Ueno. Econometrica 29: 44-57 (Jan. 1961). (2222)

MODERN TEXTILE PLANT IN EGYPT. C. Ellis. Textile Recorder 78: 76-77 (Mar. 1961).
The Kafr el Elwa (Misr Society for Silk Weaving) factory is described as an example of a modern plant in the Egyptian textile industry. (2223)

TENTATIVE TEXTILE TERMS AND DEFINITIONS. J. Textile Inst. 52: P90-P93 (Feb. 1961). (2224)

SEAMFREE STOCKING SAGA. Hosiery Trade J. 68: 81-82, 129 (Apr. 1961).
Factors affecting the further growth of the market for seamfree hose are analyzed. (2225)

EDUCATION, TECHNOLOGY, AND TEXTILES IN GREAT BRITAIN. D. B. Moore (Textile Inst.). J. Textile Inst. 52: P63-P73 (Feb. 1961). (2226)

PATENT CHECKLIST

U.S. patents may be obtained from the U.S. Patent Office, Washington 25, D.C., for 25¢ a copy. Photostatic copies of foreign patents are also available. Charges for these photostats are based on the number of pages in the patent.

FIBERS A

Natural fibers A1

COTTON BALING PRESS. T. Saito (Japan). BP 850 591, Oct. 5, 1960. Through BCIRA 41: 610 (1961).
The fiber is fed into a press-box or casing and compressed vertically by the platen of a hydraulic press rising from below. (2227)

Manmade fibers A2

ALL-SKIN VISCOSE RAYON. J. A. Howsmon and B. A. Thumm (to Am. Viscose Corp.). USP 2 975 019 and 2 975 020, Mar. 14, 1961.
The presence of small amounts of water-soluble alkylene oxide adducts of lactams (2 975 019) or of aniline (2 975 020) in the spinning bath results in the production of all-skin filaments. (2228)

ALL-SKIN VISCOSE RAYON. W. A. Sisson (to Am. Viscose Corp.). USP 2 975 021, Mar. 14, 1961.
The addition of water-soluble alkylene oxide adducts of urea and biuret to the spinning bath is claimed. (2229)

PRODUCTION OF ALL-SKIN VISCOSE. E. E. Tallis and D. N. Tyler (to Courtaulds Ltd). USP 2 975 023, Mar. 14, 1961.
The addition of polyethylene oxide to the spinning solution and a critical drawing off speed are claimed. (2230)

ALL-SKIN VISCOSE. C. Schlatter (to Am. Viscose Corp.). USP 2 976 113, Mar. 21, 1961.
The addition of water-soluble alkylene oxide adducts of 2-aliphatic substituted imidazolines to the spinning solution is claimed. (2231)

ALL-SKIN RAYON. H. H. Hall (to Am. Viscose Corp.). USP 2 977 238, Mar. 28, 1961.
The presence of small amounts of alkali-soluble phosphoric acid esters of alkylene oxide adducts of fatty alcohols in the spinning solution results in the production of all-skin viscose filaments. (2232)

YARN PRODUCTION B

PRODUCTION OF TWISTLESS YARNS BY DIRECT SPINNING. Soc. de Constructions Mecaniques de Stains. BP 850 145 and 850 146, Sept. 28, 1960. Through BCIRA 41: 618-619 (1961).
The slivers produced by stretch breaking a tow bundle are sized with a water soluble binder, false twisted, dried and untwisted, and wound. (2233)

DEVICE FOR CONTINUOUS PRODUCTION OF GLASS FIBER FLEECE, SLIVER, OR YARN. J. C. Riedel (Austria). USP 2 976 580, Mar. 28, 1961. (2234)

CRIMPING APPARATUS. P. G. Noble (to R. P. Lawson & Sons Ltd). BP 850 033, Sept. 28, 1960. Through BCIRA 41: 623 (1961).
Heat-sensitive yarns (nylon, Terylene) are fed by a pair of hot crimping rollers, in predetermined volume, through a stuffer tube (preferably slightly tapered) where they are subjected to dielectric or high-frequency heating. Heating of the compressed mass of yarn is uniform, and the resultant yarn has sawtoothed crimped filaments. (2235)

CONTINUOUS CRIMPING OF SYNTHETIC YARNS. E. P. R. Scragg (to E. Scragg & Sons Ltd). BP 850 693, Oct. 5, 1960. Through BCIRA 41: 625 (1961).
A crimped and partially relaxed thermoplastic yarn is produced continuously by the following steps: (1) softening by heat (passage over hot plates), (2) high twisting while hot. (3) setting the twist by cooling, (4) untwisting, (5) heating and allowing a predetermined contraction, (6) cooling, and (7) winding. (2236)

APPARATUS FOR HEAT-STRETCHING POLYETHYLENE TEREPHTHALATE FILAMENTS. Vereinigte Glanzstoff Fabriken AG. BP 850 875, Oct. 12, 1960. Through BCIRA 41: 787 (1961).
In apparatus for heat-stretching Terylene type filaments employing rollers and snubbing pins, the desirable difference in temperature between that at the hotter, drawing pin and that at the cooler, setting pin is maintained by choosing metals of the appropriate difference in thermal conductivity. (2237)

CRIMPING APPARATUS. NV Onderzoekingsinst. Research. BP 850 899, Oct. 12, 1960. Through BCIRA 41: 788 (1961).
Rapid heat transfer is secured by using for the surface against which the running yarn rubs a wire bent into a very open helix, e.g. of fewer than five turns per 20 cm. (2238)

FALSE TWIST CRIMPING APPARATUS. D. Finlayson and R. W. Fearn (to Brit. Celanese Ltd). BP 851 817, Oct. 19, 1960. Through BCIRA 41: 789 (1961).
Yarns from two packages, or two separate bundles of untwisted filaments, are run together through a false twist tube and a heat-setting zone, then separated again, and run to individual packages. To prevent twist from running back to the supply packages or forward to the separating point the yarns are made to pass one on each side of a waisted roller. (2239)

APPARATUS FOR CONDENSING A BAND OF PARALLEL CONTINUOUS FILAMENTS PREPARATORY TO CRIMPING. J. C. Whitmore (to E. I. du Pont de Nemours & Co.). USP 2 975 501, Mar. 21, 1961. (2240)

APPARATUS FOR CONVERTING ACRYLIC TOW TO STAPLE FIBER. R. Virgil (to Templon Spinning Mills). USP 2 976 578, Mar. 28, 1961.
Improved uniformity in staple fibers is achieved by continuously stretching and heating the tow, cooling it rapidly, and breaking it into staple fiber. (2241)

PROCESS FOR MAKING CRIMPED FILAMENTS. R. H. Speakman and R. B. Macleod (to Imp. Chem. Inds. Ltd). USP 2 974 391, Mar. 14, 1961.
Potentially crimped continuous thermoplastic filaments are obtained by subjecting the filaments to a nonuniform heat treatment on one side only by passing them over an electric resistance wire at a temperature above their melting point. The latent crimp in the filaments is then released by a heat relaxation treatment. (2242)

HIGH SPEED APPARATUS FOR CRIMPING YARN. R. W. Timbie (to Chemstrand Corp.). USP 2 974 392, Mar. 14, 1961.
Apparatus for mechanically crimping and heat setting continuous filament arms in which adjacent crimps are maintained in a spaced relation without contact with each other throughout. (2243)

TOW TREATING APPARATUS. E. P. Carter (to Chemstrand Corp.). USP 2 974 512, Mar. 14, 1961.
Apparatus for continuously annealing tow by means of pressurized steam by advancing the tow in an intermittent manner. (2244)

APPARATUS FOR CUTTING STAPLE LENGTHS OF TOW. M.-O. Schürmann and A. Einsel (to Farbenfabriken Bayer AG). USP 2 974 554, Mar. 14, 1961. (2245)

MULTIPLE END HORIZONTAL CRIMPING MACHINE. A. J. Racicot (Canada). USP 2 976 667, Mar. 28, 1961.
Machine for simultaneously processing two ends of thermoplastic yarn of opposite torque and combining them for direct use in knitting. (2246)

Opening, picking, fiber preparation B1

HOPPER FEED MECHANISM. T. A. Whiteley and W. Rose. BP 849 002, Sept. 21, 1960. Through BCIRA 41: 381 (1961).
A roller or endless sheet carrying a brush or comb is fitted across the full width of an inclined, spiked lattice adjacent to the upper end in order to break up lumps of matted fiber in their passage to a weigh pan and thence to a conveyor. (2247)

PICKER MACHINE CALENDER ROLLS. A. C. Flint, J. E. Livingston, M. D. Haven, and J. R. Long (to Livingston & Haven Inc. and Granite Mach. Co.). BP 850 694, Oct. 5, 1960. Through BCIRA 41: 615 (1961).
Fluid pressure or compressed air means for maintaining uniform yieldable pressure on the calender rolls. (2248)

PICKER LAP PIN EJECTOR. H. H. Neuman (to Blackstone, Inc.). USP 2 968 447, Jan. 17, 1961. (2249)

PINLESS LAP ROLL SUPPORT. D. A. Drum. USP 2 968 448, Jan. 17, 1961. (2250)

Carding and combing B2

CARD ROLL CONSTRUCTION. J. D. Hollingsworth. USP 2 973 560, Mar. 7, 1961.
Card roll end construction which prevents the accumulation or buildup of fibers. (2251)

LAP ROLL PRESSURE MECHANISM FOR LAPPING MACHINES. J. R. Long and A. C. Flint (to Granite Mach. Co. and Livingston & Haven Inc.). BP 849 322, Sept. 21, 1960. Summary in BCIRA 41: 385 (1961). (2252)

NIPPER PLATE SUPPORT IN NASMITH COMBING MACHINES. W. Naegeli (to J. J. Rieter & Co. Ltd). USP 2 974 375, Mar. 14, 1961.
The conventional nipper frame is replaced by a three-point support by means of which the nipper plate is held directly by two lateral arms and a bracket. (2253)

DRIVING MEANS FOR COILER HEADS AND SLIVER COLLECTING CANS. J. R. Whitehurst (to Ideal Inds.). USP 2 975 489, Mar. 21, 1961. (2254)

SLIVER COILER MECHANISM. G. S. Van Deusen (to Warner & Swasey Co.). USP 2 976 581, Mar. 28, 1961.
The driving mechanism for the rotatable turntable on which the sliver can is supported includes means for reversing the direction of rotation and for adjusting the turntable to permit the use of different diameter cans. (2255)

Drawing and roving B3

DOUBLE APRON DRAFTING APPARATUS. W. Nutter and R. Cheetham (to T. M. M. (Research) Ltd). BP 851 927, Oct. 19, 1960. Through BCIRA 41: 784 (1961).
In an apparatus having a tensor bar defining the nose of the bottom apron, an extra, cylindrical bar is fixed to the flat top of the tensor bar to deflect the aprons from the straight path and cause more pressure to be exerted on the fiber at that point as the aprons pass over the extra bar. (2256)

DOUBLE APRON HIGH-DRAFT MECHANISM. N. Schlumberger & Cie. BP 851 989, Oct. 19, 1960. Summary in BCIRA 41: 783 (1961). (2257)

Spinning, winding, twisting B4

RING SPINNING MACHINE FRAME. Brevets Aero-Mecaniques SA. BP 850 066, Sept. 28, 1960. Through BCIRA 41: 617 (1961).
The framework has members extending vertically above the spindle rail supports that serve as guides for such reciprocating parts as the ring rail and as supports for the overhead parts such as a delivering device and/or a creel. (2258)

PNEUMATIC BROKEN ENDS COLLECTOR FOR SPINNING FRAMES. Thoma Co. GmbH. BP 850 805, Oct. 5, 1960. Through BCIRA 41: 616 (1961).
The suction tube is shaped so that it will serve for both short- and long-stapled fibers. (2259)

ADJUSTABLE TENSION DEVICE FOR TWO-FOR-ONE YARN TWISTER. R. D. Heffelfinger and A. W. Little (to Am. Viscose Corp.). USP 2 932 151, Apr. 12, 1960. (2260)

APPARATUS FOR THE PRODUCTION OF CABLES OF WIRE TWISTED WITH ACETATE TOW. S. A. Petersen (to Celanese Corp.). USP 2 976 669, Mar. 28, 1961. (2261)

TOP DRAFTING ROLL SUPPORT FOR SPINNING MACHINES. R. Rulon-Miller and W. H. Tabor (to Dixon Corp.). BP 851 879, Oct. 19, 1960. Through BCIRA 41: 785 (1961).
Each top roll is free of end trunnions and is mounted in oilless bearings at its midpoint by means of a saddle. (2262)

SPINNING AND TWISTING SPINDLES. J. J. Rieter & Cie AG. BP 851 915, Oct. 19, 1960. Through BCIRA 41: 786 (1961).
Spindle brake in which the shoes (cast from a phenol/formaldehyde resin) act on the inside of a cylindrical part of the spindle, being carried by flap spring elements and forced outward by a lever and cam device. (2263)

APPARATUS FOR THE SUCTION OF BROKEN ENDS AND DUSTING OF SPINNING MACHINES. F. Reiterer (to Parks-Cramer Co.). USP 2 976 668, Mar. 28, 1961.
Device for creating continuous suction for broken end removal and intermittent suction for dust removal in various areas. (2264)

RING RAIL GUIDE DEVICE IN SPINNING MACHINES. L. Vella (Italy). USP 2 976 670, Mar. 28, 1961.
The inventors claim to make it possible to use larger rings and to reduce the power required for moving the ring rail. The lifter rod, its guide, and the members for fastening the ring rail are offset from the spindles. The lifter rod slides in a support through the intermediary of at least two spherical bodies that roll loosely in grooves between the rod and the support, and take the lateral thrusts on the rod caused by the offset load. (2265)

METHOD OF THREADING DRAW TWISTER. J. B. Steen (to Am. Enka Corp.). USP 2 976 671, Mar. 28, 1961.
For use in processing yarn of irregular or rectangular cross-section. (2266)

SUSPENSION TYPE BOBBIN HOLDER. J. F. King, Jr. (to Bahnson Co.). USP 2 977 067, Mar. 28, 1961.
In holders of the spring jaw type, the spring force is automatically adjusted to provide a stronger force for heavy bobbins and a lesser force for smaller bobbins. (2267)

Yarns B5

PRODUCTION OF STRETCH YARNS. D. F. Arthur, E. Stutchfield, A. F. Weller, and S. D. Yates (to Brit. Nylon Spinners Ltd). BP 850 079, Sept. 28, 1960. (Addition to BP 797 051.) Through BCIRA 41: 621 (1961).
Two thermoplastic yarns are drawn through heating means and then through one each of two twist tubes, where they receive opposite twists and are crimped, and are then doubled together and wound into cones. (2268)

APPARATUS FOR PREPARING SLUB YARNS. J. G. Smith (to E. I. du Pont de Nemours & Co.). USP 2 975 474, Mar. 21, 1961.
Thick-and-thin yarns with randomly arranged denier variations are obtained by traversing thermoplastic synthetic yarns back and forth across a roller with randomly spaced, heated and unheated portions, and withdrawing the yarn at a faster rate than that at which it is fed so that the heated portions are drawn from 2 to 20 times their original length. (2269)

CORE YARN. Anciens Etab. Cordonnier SA. BP 850 059, Sept. 28, 1960. Through BCIRA 41: 627 (1961).
A crimped yarn is fed with a roving of staple yarn to a drafting device so that the core yarn is straightened and entangled with the roving and the twist in the core is reversed. The product is then heat treated so that the core contracts onto the fibers entangled with it. (2270)

COMPOSITE ROPES. E. Coggi (to Montecatini-Soc. Generale per l'Industria Mineraria e Chimica). USP 2 974 559, Mar. 14, 1961.
Rope consisting of a core of jute fibers and a sheath of isotactic polypropylene yarn. (2271)

SHIPPING CONTAINER FOR PACKAGING YARN CONES. J. P. H. Leavitt (to Container Corp. of America). USP 2 975 892, Mar. 21, 1961. (2272)

AGITATOR-HOPPER ASSEMBLY FOR SEWING THREAD SPOOL LABELING MACHINES. M. Curry (to Am. Thread Co.). USP 2 977 006, Mar. 28, 1961. (2273)

FABRIC PRODUCTION C

Warping, slashing, yarn preparation C1

EXPENDABLE WARP BEAMS. W. Shaw. BP 850 219, Oct. 5, 1960. Through BCIRA 41: 639 (1961).
To reduce the cost and storage space of the common arrangement in which a loom is furnished with three warp beams (one on the loom, one wound, and one being wound) the inventor claims the use of expendable cardboard or plastic tubes to which the usual beam end fittings can be transferred as required. (2274)

SIZING MACHINES. Rüti Machy. Works Ltd. BP 850 485, Oct. 5, 1960. Through BCIRA 41: 640 (1961).
To prevent oversizing of selvage warps, compressed air nozzles are fitted near the ends of the squeeze rollers to blow size away. (2275)

WINDING MACHINES. M. Warnock (to J. & T. Boyd Ltd). BP 850 839, Oct. 5, 1960. Through BCIRA 41: 637 (1961).
The yarn guide and tension device, located near the upper end of an upstanding yarn supply package, has three cylindrical members, the first and third in one plane and the intermediate one below them, arranged so that the yarn is constrained to rub against the end of its package and not slip off in loose coils. (2276)

THREAD TENSIONING DEVICES. R. Burger. BP 850 858, Oct. 12, 1960. Through BCIRA 41: 810 (1961).
The tensioning device employing two friction discs uses magnetic force for adjusting the discs. (2277)

BOBBINS OR SECTION BEAMS FOR SYNTHETIC YARNS. S. Heim (Germany). BP 850 863, Oct. 12, 1960. Through BCIRA 41: 811 (1961).
The collar of the flange for a bobbin or section beam is elongated so that the flange and tube meet at some distance from the actual flange. The joint is effaced by roller pressing, glueing, or preferably welding; no tiny gap is left in which fine yarn can catch. (2278)

BOBBIN FOR NYLON YARN OR CORD. J. B. Hawley. USP 2 974 896, Mar. 14, 1961.
The solid nonmetallic barrel is reinforced with a removable tubular steel reinforcing sleeve to prevent axial distortion of the barrel and facilitate mounting of the bobbin on the spindle. (2279)

YARN TENSION DEVICE FOR WINDING MACHINERY. R. L. Carroll. USP 2 974 897, Mar. 14, 1961.
The device consists of ceramic fingers individually mounted on metal supports. (2280)

SIZING APPARATUS. K. K. Edgar. USP 2 976 600, Mar. 28, 1961.
Means for automatically controlling the amount of size application. (2281)

APPARATUS FOR TYING ELASTIC THREADS. W. Gegenschatz and M. Buchmann (to Zellweger AG). USP 2 977 144, Mar. 28, 1961. (2282)

Weaving C2

JACQUARD HARNESS. V. Wittendal (France). BP 850 138, Sept. 28, 1960. Through BCIRA 41: 641 (1961).
The inventor calls attention to the drawbacks of lingoes and springs as devices for holding jacquard cords taut, and claims the use of elastic thread or ribbon, which may be bare or enclosed in a braided sheath. Loom speeds above 200 picks per minute are possible. (2283)

PICKER CHECK FOR UNDERPICK LOOMS. Lemförder Metallwaren GmbH. BP 850 320, Oct. 5, 1960. Through BCIRA 41: 642 (1961).
Stops for the resilient interception of the picking sticks are made of multiple layers of foamed polyurethane clamped in a metal, leather, or plastic carrier. (2284)

REED ADJUSTMENT DEVICE. Metapic SA and Holding Luxembourgeoise. BP 850 589, Oct. 5, 1960. Through BCIRA 41: 643 (1961).
The support on which the reed rests constitutes two parts formed into a V; one part is fixed and the other is adjustable in height so that the lower edge of the reed can be adjusted both vertically and laterally. The upper support for the reed can also be adjusted to maintain the reed in the plane of the rear walls of the shuttle boxes. (2285)

Knitting C3

MOTOR CONTROL FOR STRAIGHT BAR KNITTING MACHINES. W. Schobbe (to Licentia Patent-Verwaltungs-GmbH). USP 2 974 266, Mar. 7, 1961.
Means for controlling the shunt circuit exciting field of a Ward-Leonard generator and drive system and voltage stabilizer and rectifying means for feeding power to this field from an ac supply line. (2286)

BULKY CUFF FOR ANKLETS. T. Westmoreland and F. Folger, Jr. USP 2 974 508, Mar. 14, 1961. (2287)

FLAW DETECTOR FOR KNITTING MACHINES. R. G. Reip (to GPE Controls, Inc.). USP 2 976 706, Mar. 28, 1961. (2288)

SIMULATED RIB TOP FOR HOSIERY. N. Levin. USP 2 976 707, Mar. 28, 1961. (2289)

KNITTED SWIMSUITS. B. D. Gordon. USP 2 976 708, Mar. 28, 1961.
The breast cups are formed integrally with the surrounding portions of the garment by the use of long narrowing fingers to transfer loops or stitches in one direction or the other. (2290)

ARGYLE PATTERNED HOSIERY. N. Levin. USP 2 976 709, Mar. 28, 1961.
Method of knitting an overplaid design in which the single stitches in successive single wales of successive single courses are each of a uniform configuration which is the same as that of the surrounding body yarn stitches. (2291)

Fabrics C4

FIRE RESISTANT AGGLUTINATED WEBS. H. P. J. Clark (to Courtaulds Ltd). BP 849 114, Sept. 21, 1960. Through BCIRA 41: 493 (1961).
Cellulose acetate fiber and calcium alginate fiber are carded together, the fleece (about 1-1/4 in. thick) is sprayed with dimethylglycol phthalate containing trichloroethyl phosphate, and the fireproofed web is lightly pressed between hot plates. (2292)

PILE FABRIC LOOM. E. F. Clark (to Fieldcrest Mills). USP Reissue 24 949, Mar. 21, 1961. Original No. 2 437 378, Mar. 9, 1948.
The pile is formed independently from the base fabric by continuous strands of yarn taken from a beam and woven into the fabric initially in the form of loop pile by means of guides which thread the yarn back and forth over fingers which extend warpwise of the loom in front of the harnesses. (2293)

WOVEN ELECTRICAL HEATING PAD. L. A. Kelemen (Australia). USP 2 973 425, Feb. 28, 1961. (2294)

APPARATUS FOR PROVIDING PROTECTIVE EDGE FOR PILE CARPETING. H. W. Ballard (to James Lees & Sons Co.). USP 2 973 801, Mar. 7, 1961.
Apparatus for cutting the edge of a pile carpet and simultaneously tacking the severed edge to the carpet to provide a readily separable protective edge. (2295)

BONDING AGENT FOR EPOXY-GLASS FIBER LAMINATES. T. J. Collier (to Owens-Corning Fiberglas Corp.). USP 2 974 062, Mar. 7, 1961. (2296)

COMPOSITE ORGANOPOLYSILOXANE-GLASS FABRIC ELECTRICAL TAPES. W. J. Bobear and K. W. Krantz (to Gen. Elec. Co.). USP 2 974 063, Mar. 7, 1961.
A water soluble primer consisting of the heat reaction product of vinyl alkoxysilanes and ethylene glycol is applied to the fabric before coating with the organopolysiloxane. (2297)

ELASTIC WEBBING FROM RUBBER COVERED BIAS CUT FABRIC. M. D. Bodle (to U. S. Rubber Co.). USP 2 977 270, Mar. 28, 1961.
The webbing is formed by laminating two layers of bias cut, unvulcanized rubber covered fabric with a layer of straight cut, woven fabric to prevent distortion during curing. (2298)

DEVICE FOR STAIN REMOVAL BY BEATING WITH SIMULTANEOUS TREATMENT WITH CLEANING FLUID. H. Glaser (Germany). USP 2 975 448, Mar. 21, 1961. (2299)

FINISHING D

APPARATUS FOR FEEDING FABRIC IN FESTOONS OVER UPPER AND LOWER SETS OF ROLLERS. Maschinenfabrik Benninger AG. BP 846 712, Aug. 31, 1960. Summary in BCIRA 41: 87 (1961). (2300)

Chemical processes D1

MACHINE FOR THE CONTINUOUS WET TREATMENT OF FABRIC WEBS. Mezzera SpA. BP 848 537, Sept. 21, 1960. (Addition to BP 793 283). Through BCIRA 41: 481 (1961).
In a vat through which fabric travels in festoon form and with a stream of liquid, enters the vat through a slot in the bottom of a supply receptacle, the area of the slot can be varied to suit fabrics of different thicknesses. (2301)

APPARATUS FOR THE WET TREATMENT OF LOOSE TEXTILE MATERIAL. A. Thies, P. Thies, and B. Thies (Germany). BP 848 963, Sept. 21, 1960. Summary in BCIRA 41: 480 (1961). (2302)

WATER- AND CREASEPROOFING COMPOSITION. N. J. Brown. BP 849 163, Sept. 21, 1960. Through BCIRA 41: 494 (1961).
Fabrics (nylon, Saran, cotton) are rendered water- and creaseproof by immersing them for 2-5 sec in a solution at 120-140° F, of a copolymer of vinyl chloride and vinyl acetate, a plasticizer, and a stabilizer dissolved in a mixture of methyl ethyl ketone and toluene. The fabric is then heated at 140-160° F. The solution is said to penetrate the spaces between the fibers but not the fibers themselves. (2303)

WATER AND ROTPROOFING AGENT FOR COTTON. X. Bilger and P. Muller (to Compagnie Francaise des Matières Colorantes). BP 849 274, Sept. 21, 1960. Through BCIRA 41: 495 (1961).
Copper 8-hydroxyquinolate is dissolved in an alcoholic solution of a Werner complex containing tervalent Cr (e.g. Cr stearato-chloride) and the solution is diluted with water. (2304)

COMBINED DESIZING AND BLEACHING PROCESS. V. Windbichler and H. F. Göbel (to Kalle AG). USP 2 974 001, Mar. 7, 1961.
Desizing and bleaching are effected in one stage by impregnating the cloth with a neutral liquor containing (1) sodium chlorite, (2) a substance that develops acid only at a temperature above 60° C (e.g. ammonium sulfate), and (3) an amylolytic agent (bacterial or pancreatic) that is active at a temperature below 60° C. The cloth is impregnated at below 60° C and the temperature is slowly raised. (2305)

ROTPROOFING TREATMENT FOR CELLULOSIC MATERIALS. W. J. Arthur (to E. I. du Pont de Nemours & Co.). USP 2 976 183, Mar. 21, 1961.
A high copper fixation in the cellulose material is obtained by impregnation in an aqueous solution containing ammonium formate and cupric ammonium formate, followed by removing the cellulosic material and heating from 100° C to 200° C. (2306)

Dyeing and printing D2

DYEING POLYESTER FIBERS. Farbwerke Hoechst AG. BP 846 491, Aug. 31, 1960. Through BCIRA 41: 92 (1961).
The coupling component is a 2:3-hydroxynaphthoic acid or a derivative substituted in position 6, and the diazo component is a mono- or diamine of the azobenzene or diphenyl series. These are made together into an alkaline solution, the textile material is treated for an hour in the hot solution, the bath is rendered acid and treatment continued for a further hour, after which the material is rinsed and transferred to a diazotization bath. Tarry precipitates in the dyebath are thus avoided. (2307)

PRINTING PROCESS FOR CELLULOSIC MATERIALS. W. F. Beech, D. A. Garrett, and H. R. Hadfield (to Imp. Chem. Inds. Ltd). BP 846 503, Aug. 31, 1960. Through BCIRA 41: 91 (1961).
The material is padded with a liquor or printed with a paste containing (1) a dye that has a reactive amino group, (2) an alkali, and (3) a sym-triazine carrying on the ring two halogen atoms, and subsequently heated or steamed. (2308)

PRINTING PROCESS. J. A. Moyse and C. D. Weston (to Imp. Chem. Inds. Ltd). BP 846 505, Aug. 31, 1960. Through BCIRA 41: 90 (1961).
The material (cotton, mercerized cotton, nylon, polyacrylonitrile) is padded with a solution or printed with a paste containing (1) a resin-forming composition of the crease- or shrink-resist type, (2) an acid catalyst, and (3) a reactive dye containing a sym-triazine system with two Cl or Br atoms attached to the ring, and dried and baked at about 140° C. (2309)

WATER-SOLUBLE CELLULOSE DERIVATIVES FOR USE AS THICKENERS. Mo och Domsjo AB. BP 846 692, Aug. 31, 1960. Summary in BCIRA 41: 93 (1961). (2310)

DYEING PROCESS FOR MANMADE FIBERS. H. R. Hadfield, W. P. Mills, and R. H. Ricketts (to Imp. Chem. Inds. Ltd). BP 848 236, Sept. 14, 1960. Through BCIRA 41: 244 (1961).
Synthetic polymers are treated with an insoluble reactive dye and then with an amine, phenol or thiophenol. Alternatively, these agents may be applied together in one bath or in the other order. (2311)

FUGITIVE TINTS DERIVED FROM REACTIVE ANIONIC DYES. W. Meitner and J. Wilson (to Brit. Rayon Research Assoc.). BP 848 459, Sept. 14, 1960. Through BCIRA 41: 245 (1961).
Fugitive colors are made by combining reactive dyes (of the Procion or Cibacron type) with a carbohydrate (e.g. dextrin) in the presence of alkali. The colors are applied in aqueous solution. (2312)

ROTARY PRINTING MACHINE. Soc. Alsacienne de Constructions Mecaniques. BP 848 780, Sept. 21, 1960. Summary in BCIRA 41: 487 (1961). (2313)

PRINTING PASTE BINDING AGENT. Farbenfabriken Bayer AG. BP 849 921, Sept. 28, 1960. Through BCIRA 41: 486 (1961).
Emulsions of copolymers of methylol-alkyl ethers containing one or more $-Co\cdot NR\cdot CH_2\cdot OR'$ groups and ethylenic compounds are claimed. (2314)

ETCHED TEXTILE MATERIAL CONTAINING SYNTHETIC CELLULOSE FIBERS. F. Hoelkeskamp and H. Hipp (to J. P. Bemberg AG). USP 2 966 390, Dec. 27, 1960.
Colorfast, etched designs are obtained by the reaction of a reducing agent with a fabric containing cellulose fibers spun dyed with azoic dyes. (2315)

CARRIER FOR DYEING POLYESTER MATERIALS. E. S. Olson (to Deering Milliken Research Corp.). USP 2 972 509, Feb. 21, 1961.
An organic mixture of an ortho- or meta-phenylphenol, a glycol ether solvent, and an alkylarylsulfonic acid emulsifying agent, heated to form a solution, is claimed. (2316)

COLOR FIXING AGENTS FOR DIRECT DYES ON CELLULOSE. A. F. Gortvai (to United Merchants & Mfrs., Inc.). USP 2 973 239, Feb. 28, 1961. (2317)

DYEING PROCESS FOR COMPOSITE DRAPERY-LINING FABRICS. M. R. Haskel (to United Merchants & Mfrs., Inc.). USP 2 974 395, Mar. 14, 1961.
Composite drapery fabric of double cloth whose lining surface is pretreated by resist printing to prevent the passage of color from its dyed or printed side. (2318)

HOSIERY PRINTING MACHINE. L. R. Parham (to Burlington Inds.). USP 2 974 838, Mar. 14, 1961. (2319)

ALKALI BORONATE REDUCING AGENTS FOR VAT PRINTING. F. Gund, F. Schubert, and D. Goerrig (Germany). USP 2 976 110, Mar. 21, 1961. (2320)

BINDER FOR PIGMENT PRINTING PROCESS. A. Maeder, T. Weber, G. Sulzer, W. Fatzer, and P. Guertler (to Ciba Ltd). USP 2 976 167, Mar. 21, 1961.
An aqueous dispersion of a copolymer latex, a water insoluble condensate of formaldehyde with an aminotriazine, and a water soluble condensate of formaldehyde with an aminotriazine or urea. (2321)

APPARATUS FOR DYEING ACETATE FIBERS. R. J. Mann and J. A. Grant (to Brit. Celanese Ltd). USP 2 976 713, Mar. 28, 1961.
Continuous apparatus for economically dyeing small batches of acetate fabrics by relatively short contact with a solution of dye in a mixture of water, a lower fatty alcohol, and a lower fatty acid consists essentially of a series of rollers for feeding and squeezing the fabric as it passes through a series of troughs. (2322)

Mechanical processes D3

PRESSURE CONTROL MEANS FOR CALENDER ROLLS. P. Hold (to Farrel-Birmingham Co.). USP 2 971 457, Feb. 14, 1961. (2323)

PHOTOELECTRIC WEFT STRAIGHTENER SYSTEM. R. J. Saul, R. C. Kahler, and J. M. Moran (to Cranston Print Works Co.). USP 2 972 794, Feb. 28, 1961. (2324)

ELECTROSTATIC FLOCKING MACHINE. C. Okma, H. Udes, and E. L. Donahue (to D. & S. Processing Co.). USP 2 976 839, Mar. 28, 1961. (2325)

FINISHING PROCESS FOR TEXTILE MATERIALS. S. Backer and P. G. Nordhammer (to Crompton & Knowles Corp.). USP 2 972 795, Feb. 28, 1961.
Method of improving dimensional stability, softness, hand, bulk, and drape of fabrics by alternate stretching and contraction between elastic belts. (2326)

Drying, setting, conditioning D4

FLUID BED HEAT TREATMENT APPARATUS. J. Doleman and W. V. Morgan (to Brit. Rayon Research Assoc.). BP 848 676 and 848 677, Sept. 21, 1960. Through BCIRA 41: 497 (1961).
(1) Means for controlling horizontal movements of masses of particles in the apparatus so as to reduce the strain on the fabric passing through the bed. (2) The fabric enters the fluid bed through an aperture in the base of the container, accompanied by a current of air that prevents leakage of particles through the aperture. (2327)

FLUID BED DRYING. J. Doleman and W. V. Morgan (to Brit. Rayon Research Assoc.). BP 849 329, Sept. 28, 1960. Through BCIRA 41: 498 (1961).
The material is drawn upwards through a fluid bed that rests on a compact mass of nonfluidized particles of greater density and 4-8 times the diameter of the fluidized particles. Fabrics are controlled in width by tenter mechanism. (2328)

TESTING AND MEASUREMENT E

Fibers E1

APPARATUS FOR DETERMINING MOISTURE CONTENT. C. E. Holaday. USP 2 975 361, Mar. 14, 1961.
By measuring the electrical resistance of a sample, e.g. cottonseed or raw lint cotton, while the latter is maintained under compression. (2329)

Yarns E2

METHOD AND APPARATUS FOR DETERMINING, INDICATING, AND RECORDING IRREGULARITY. A. Butticaz, C. Tesage, and H. Dembowski (France). BP 850 180, Sept. 28, 1960. Through BCIRA 41: 705 (1961).
In a capacitance method and apparatus for measuring and recording deviations from a mean in the regularity of running ribbons, wicks, and yarns, the material is passed at a constant but adjustable speed through a measuring condenser causing an out-of-balance signal with regard to the capacity of a reference condenser in the case of deviations. (2330)

Fabrics E3

TESTING THE CREASE RESISTANCE OF FABRICS. W. K. Donaldson (to Tootal Broadhurst Lee Co. Ltd). BP 846 875, Aug. 31, 1960. Through BCIRA 41: 126 (1961).
Two parallel creases are formed in a specimen of the fabric by folding it S- or Z-wise and holding it thus for a prescribed time under a prescribed pressure. The specimen is then laid on a flat surface and the inclination of the band of fabric between the creases is optically measured. Suitable apparatus is illustrated. (2331)